

FIG. 1

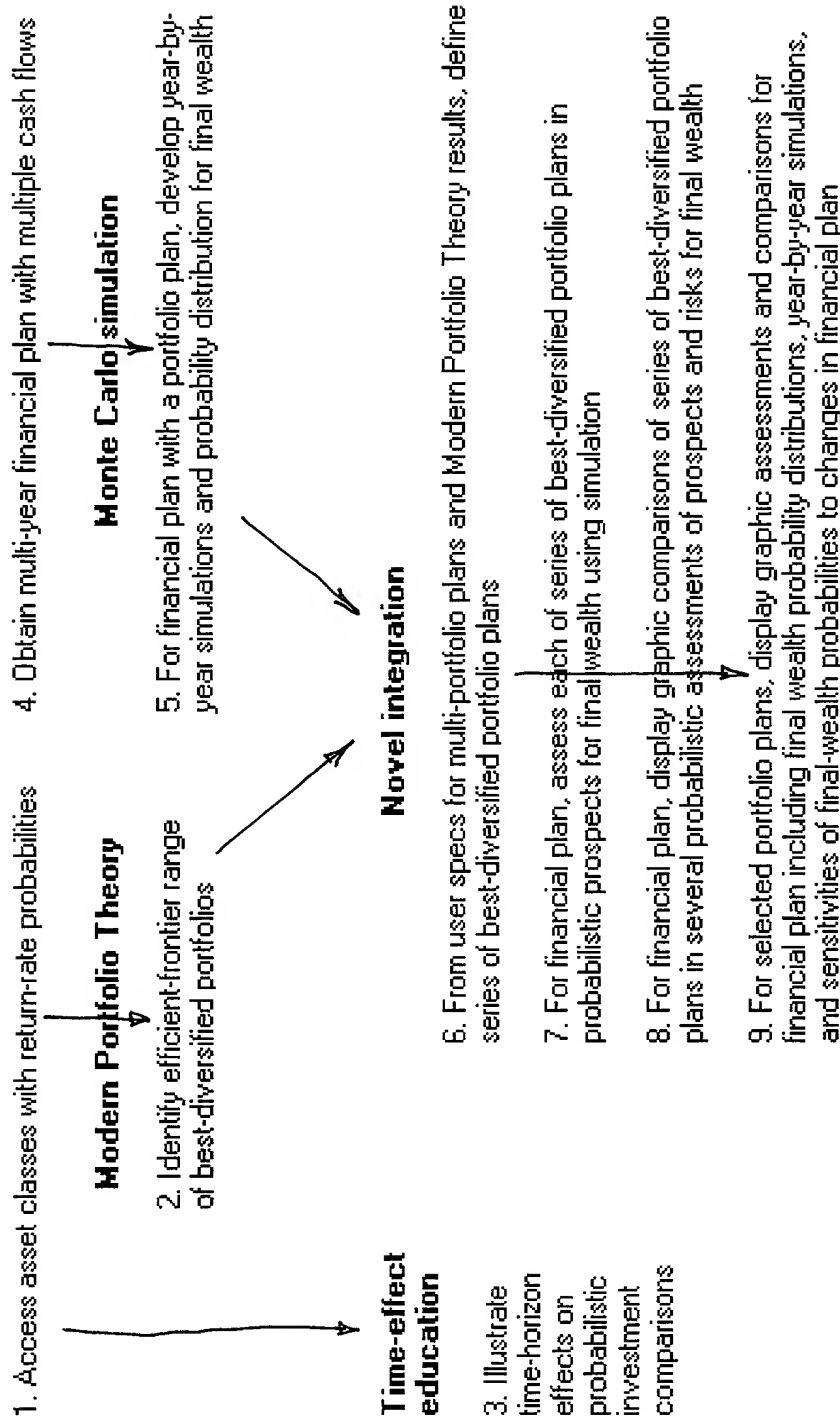


FIG. 2

305 301 302 303 304 306

AssetClasses		Return-rate specs, %		Correlation coefficients -- between pairs of numbered asset classes											
	Asset class	Expected	Std. devn.	1	2	3	4	5	6	7	8	9	10	11	12
1	<input checked="" type="checkbox"/> US Large caps	13.0	20.0												
2	<input checked="" type="checkbox"/> US Small caps	13.8	25.0	0.66											
3	<input checked="" type="checkbox"/> Int'l Equities	10.5	21.5	0.48	0.51										
4	<input checked="" type="checkbox"/> US Fixed income	5.2	7.8	0.40	0.35	-0.11									
5	<input checked="" type="checkbox"/> US T-bills	3.6	2.7	0.12	-0.18	-0.26	0.39								
6	<input checked="" type="checkbox"/> Int'l Fixed	5.4	13.7	0.10	-0.02	0.07	0.37	-0.18							
7	<input type="checkbox"/> US Real estate	11.4	20.7	0.14	0.62	0.01	0.29	-0.23	-0.07						
8	<input type="checkbox"/> US All stocks	13.0	22.0	0.99	0.75	0.49	0.43	0.08	0.10	0.23					
9	<input type="checkbox"/> US L-cap growth	12.8	23.1	0.96	0.52	0.42	0.27	0.13	0.16	-0.06	0.93				
10	<input type="checkbox"/> US L-cap value	13.7	16.9	0.86	0.77	0.47	0.55	0.06	0.00	0.47	0.89	0.68			
11	<input type="checkbox"/> US Midcap growth	13.4	24.2	0.81	0.75	0.54	0.20	0.02	-0.01	0.11	0.84	0.81	0.63		
12	<input type="checkbox"/> US Midcap value	12.3	20.8	0.59	0.81	0.18	0.62	-0.02	-0.06	0.75	0.66	0.38	0.84	0.41	
13	<input type="checkbox"/> US S-cap growth	12.6	25.0	0.73	0.89	0.62	0.19	-0.09	0.05	0.27	0.79	0.68	0.64	0.94	0.50
14	<input type="checkbox"/> US S-cap value	15.4	25.0	0.34	0.80	0.16	0.45	-0.21	-0.11	0.86	0.44	0.12	0.66	0.27	0.93
15	<input type="checkbox"/> US Govbonds IT	5.1	5.7	0.34	0.27	-0.18	0.99	0.44	0.39	0.23	0.37	0.25	0.45	0.18	0.53
16	<input type="checkbox"/> US Govbonds LT	5.8	12.4	0.34	0.29	-0.04	0.96	0.24	0.35	0.30	0.36	0.18	0.56	0.08	0.63
17	<input type="checkbox"/> US Muni bonds	4.3	10.8	0.29	0.36	-0.06	0.94	0.25	0.34	0.40	0.33	0.11	0.56	0.08	0.66
18	<input type="checkbox"/> US Corp bonds	5.4	10.0	0.47	0.45	0.00	0.98	0.26	0.47	0.34	0.51	0.33	0.62	0.27	0.68
19	<input type="checkbox"/> US HYield bonds	5.0	12.8	0.52	0.88	0.34	0.42	-0.30	0.35	0.65	0.62	0.43	0.58	0.57	0.73
20	<input type="checkbox"/> Euro equities	10.9	20.1	0.79	0.43	0.74	0.22	0.00	0.12	0.01	0.76	0.73	0.73	0.57	0.33
21	<input type="checkbox"/> EmergCo equities	11.3	35.5	0.26	0.59	0.62	0.04	-0.01	-0.11	0.12	0.32	0.21	0.28	0.59	0.17
22	<input type="checkbox"/> Venture capital	14.3	38.3	0.52	0.38	0.53	-0.27	-0.35	0.07	-0.20	0.51	0.61	0.23	0.78	-0.07

Default asset-class data: 7 Majors Explain Clear Cancel OK

FIG. 3

401 402 403

Frontier allocation constraints

No entries required. Best left blank.
Enter any constraint as multiple of 5.

Asset class	Min%	Max%
US Large caps		
US Small caps		50
Intl Equities		
US Fixed Income	10	
US T-bills		

Explain Cancel OK

FIG. 4

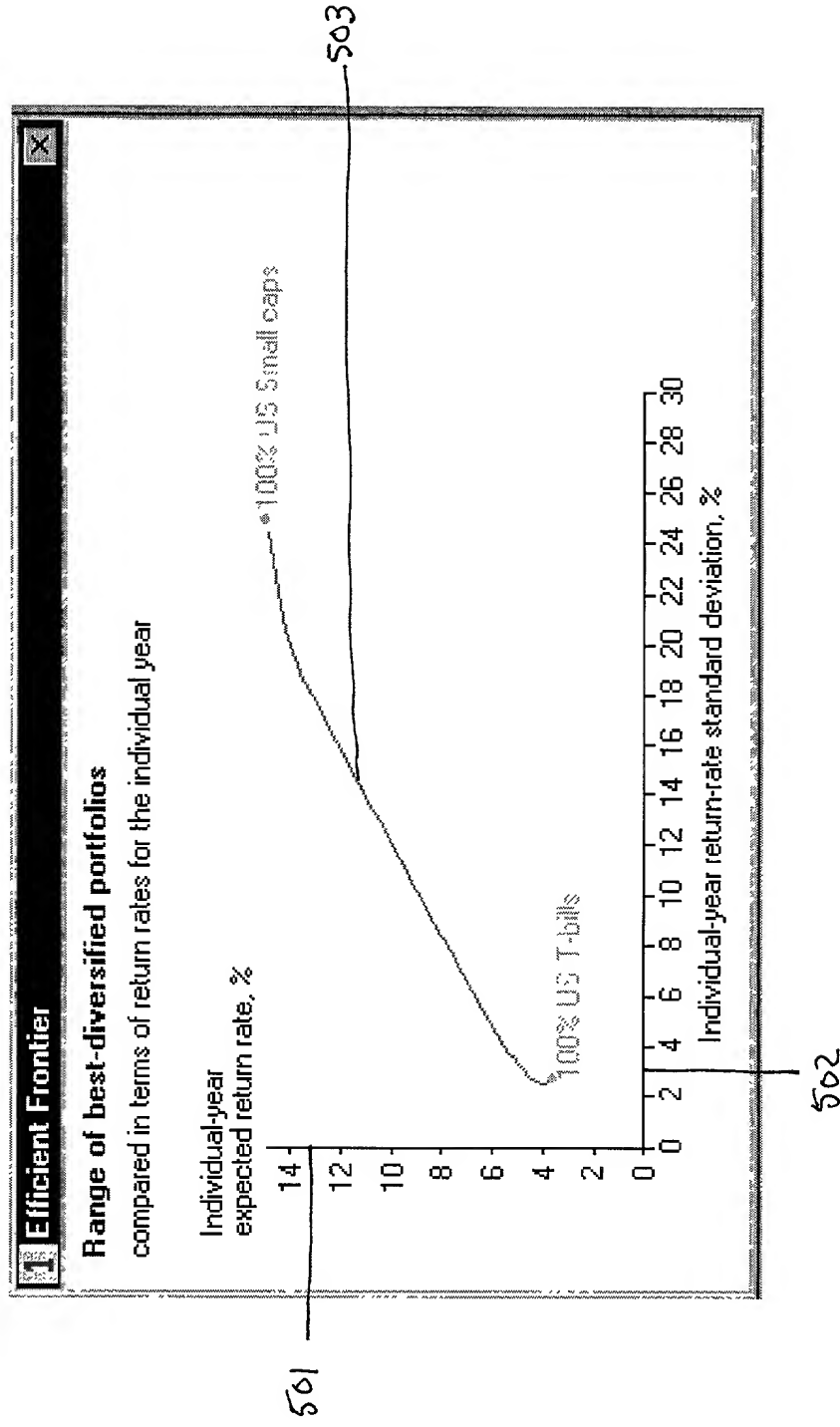


FIG. 5

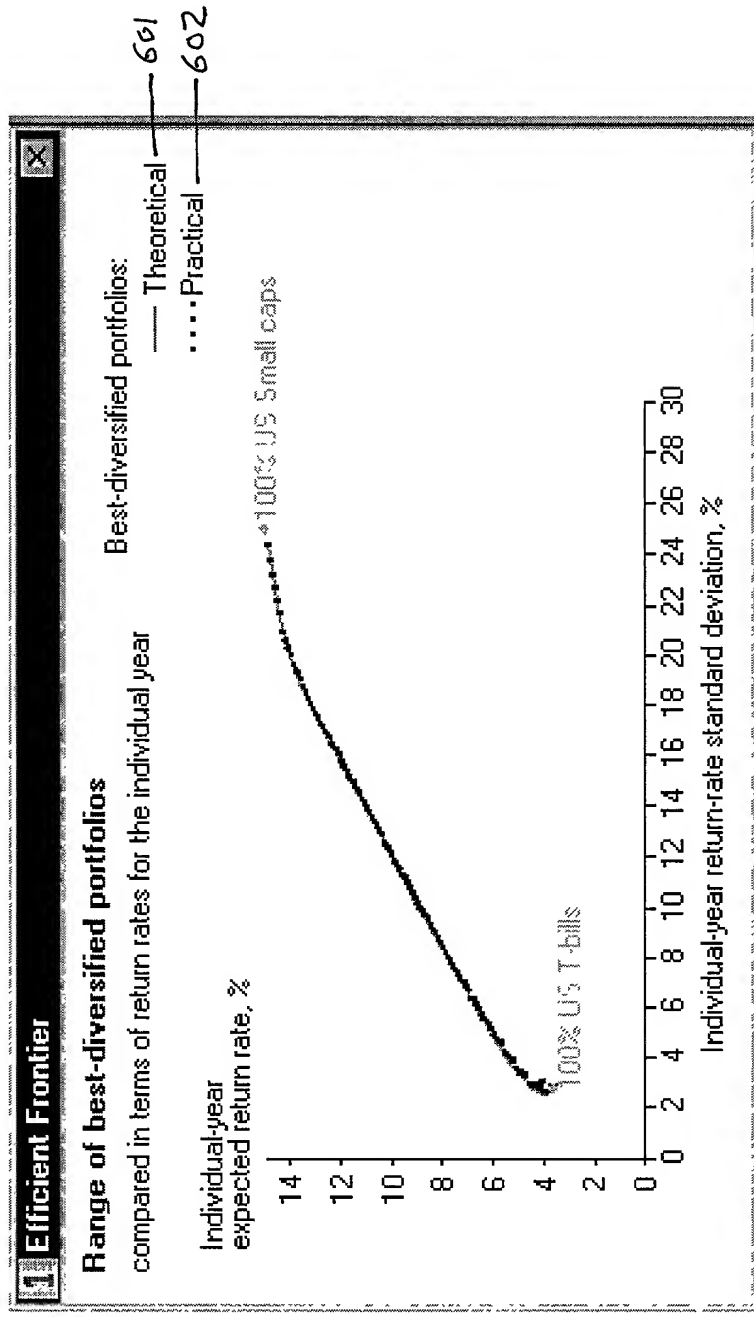


FIG. 6

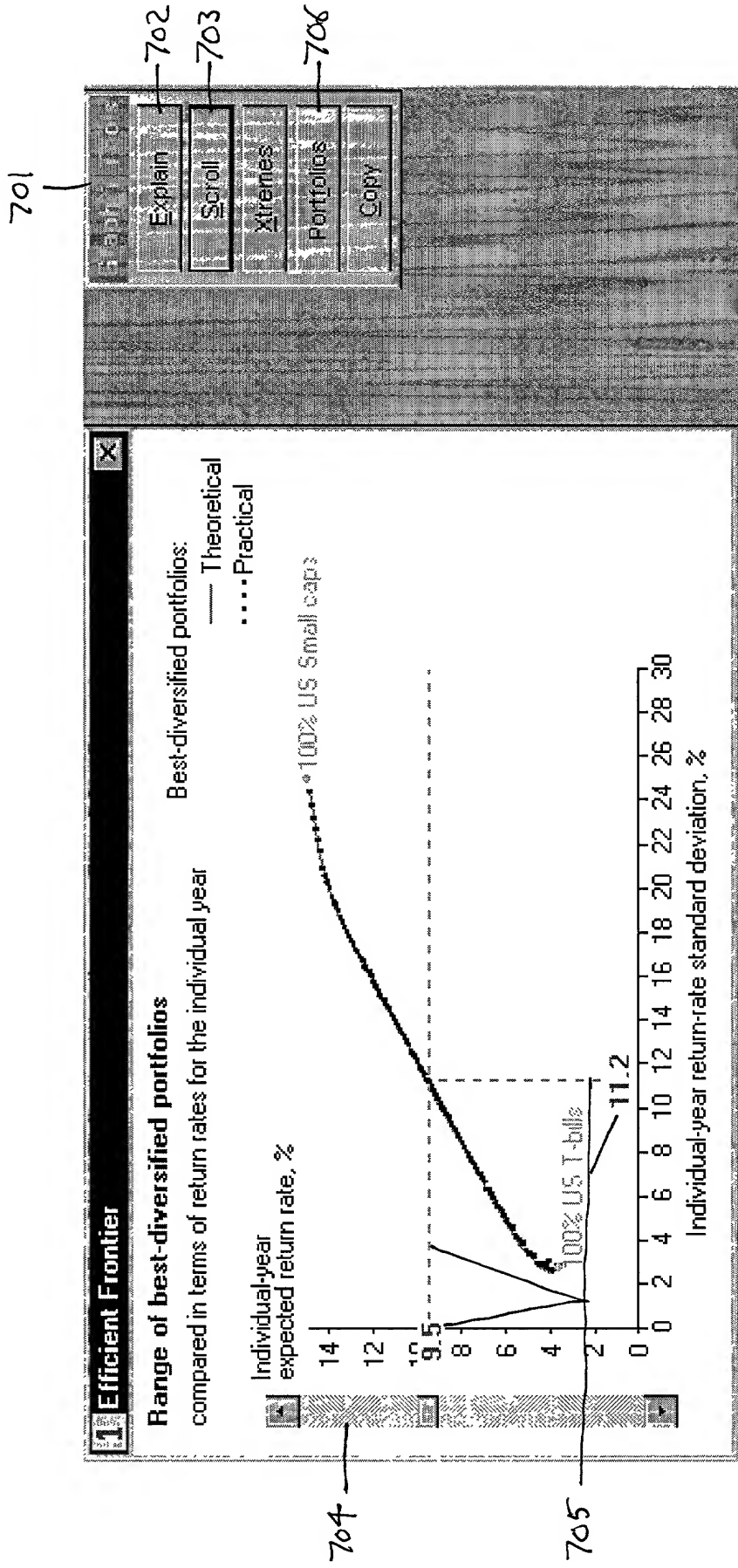


FIG. 7

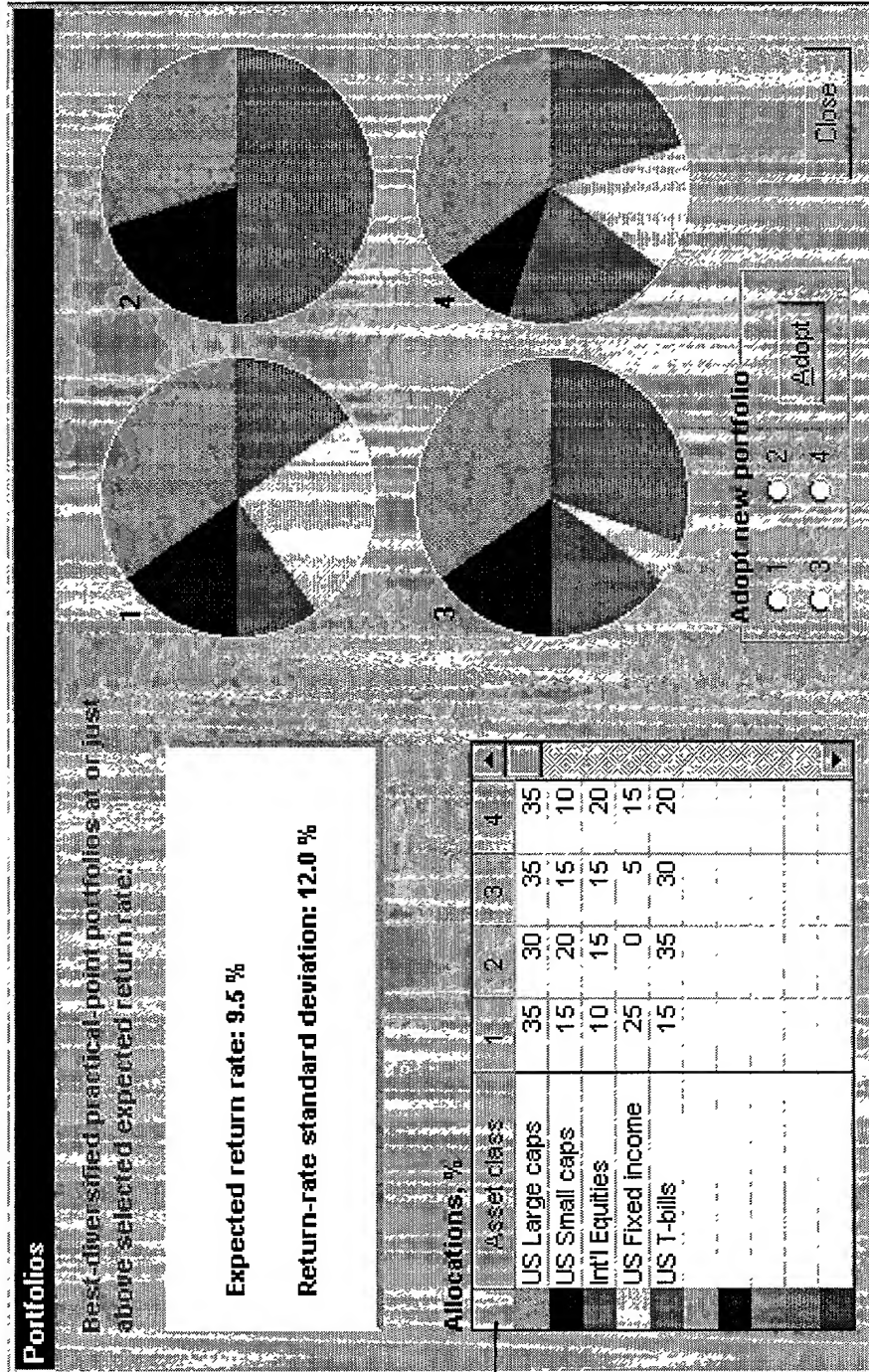


FIG. 8

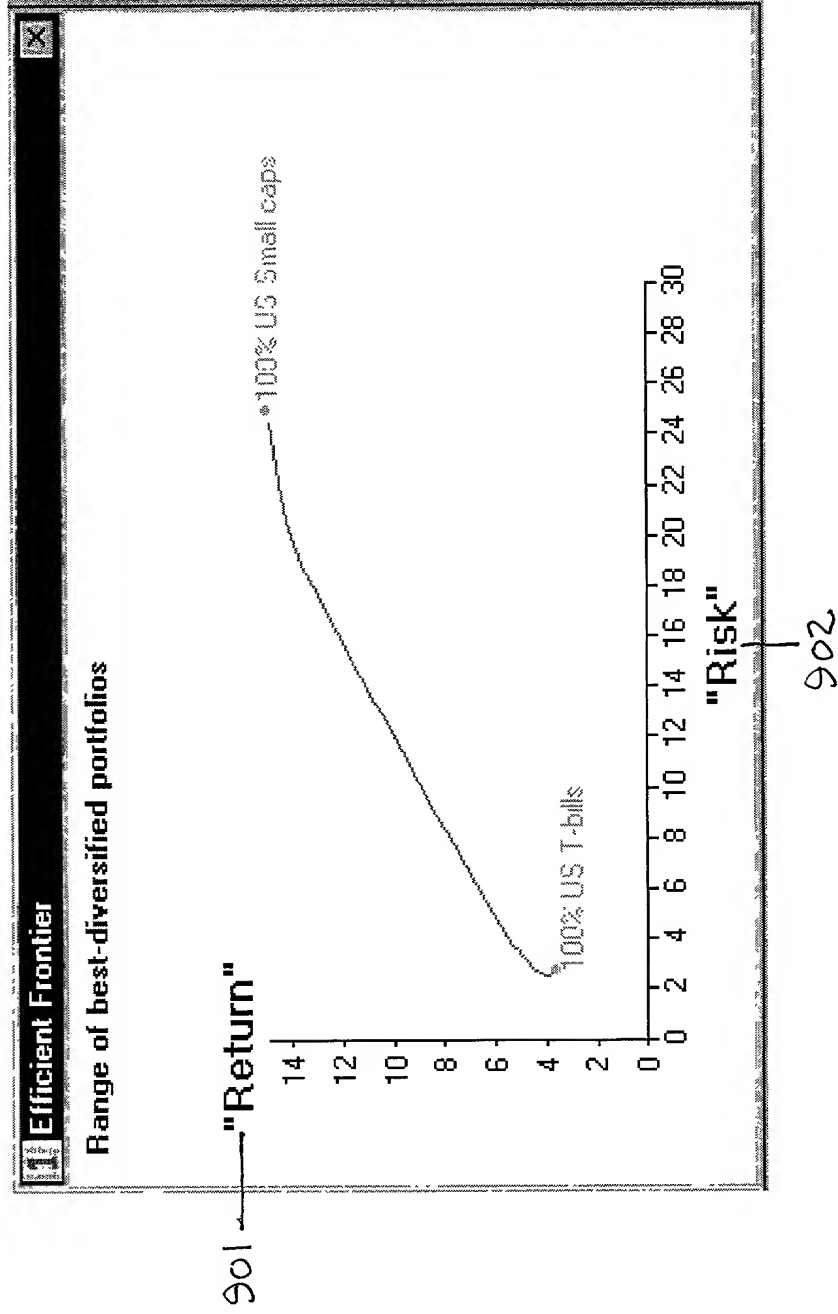


FIG. 9

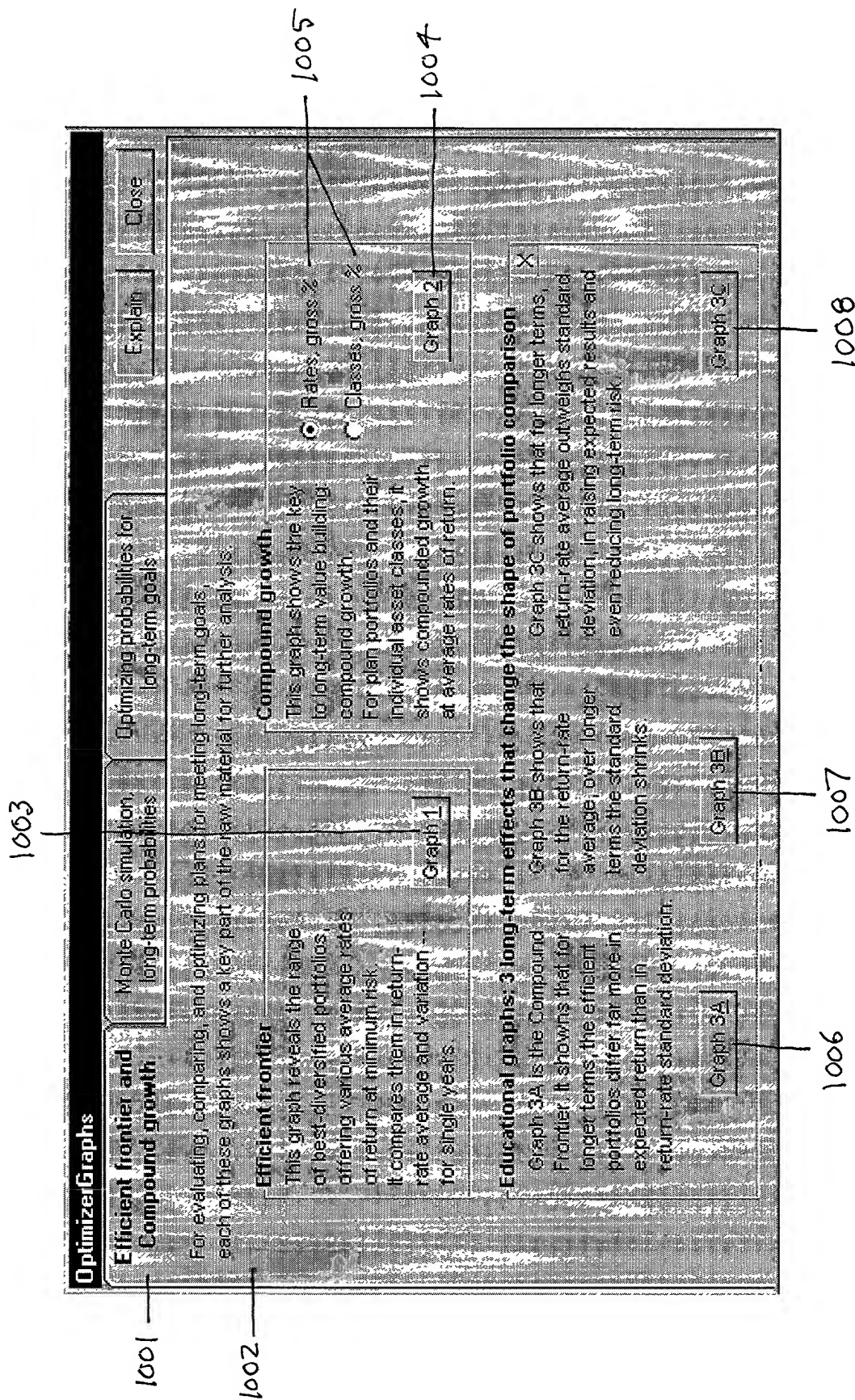


FIG. 10

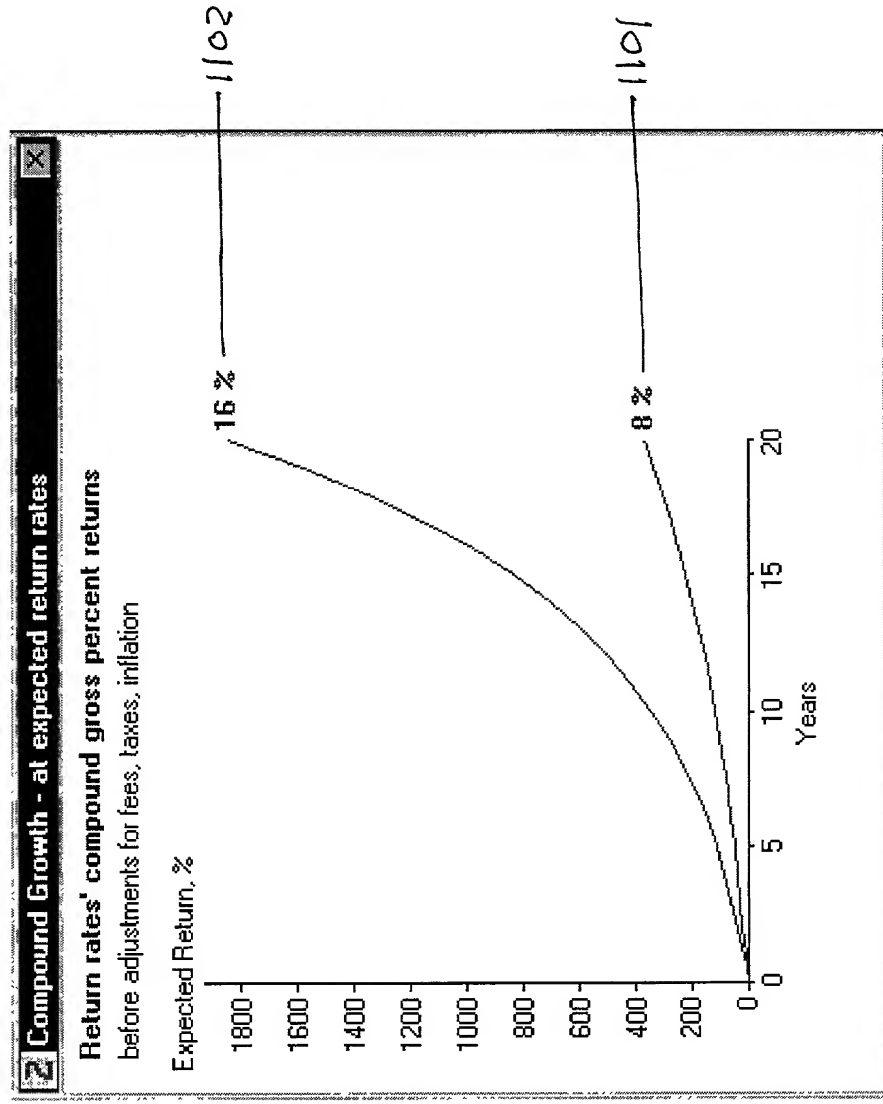


FIG. 11

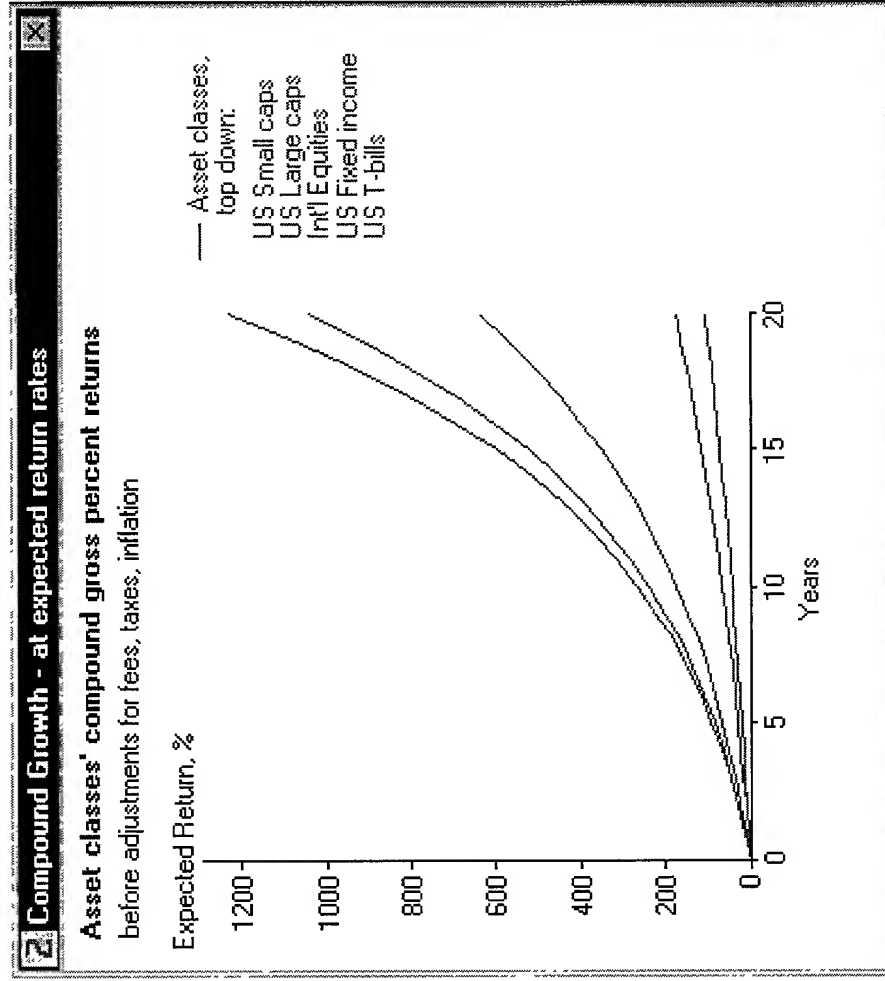


FIG. 12

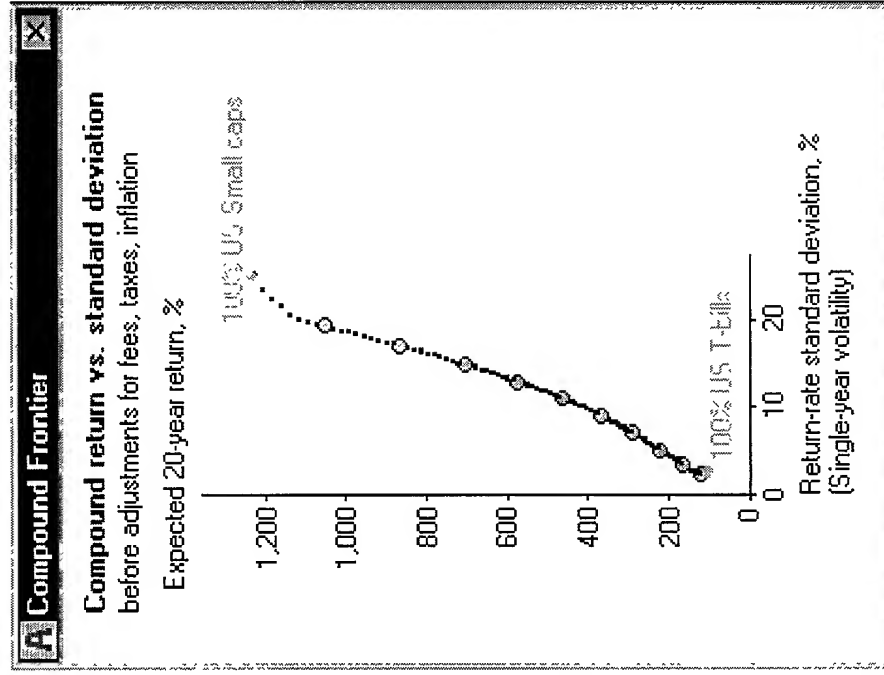


FIG. 13

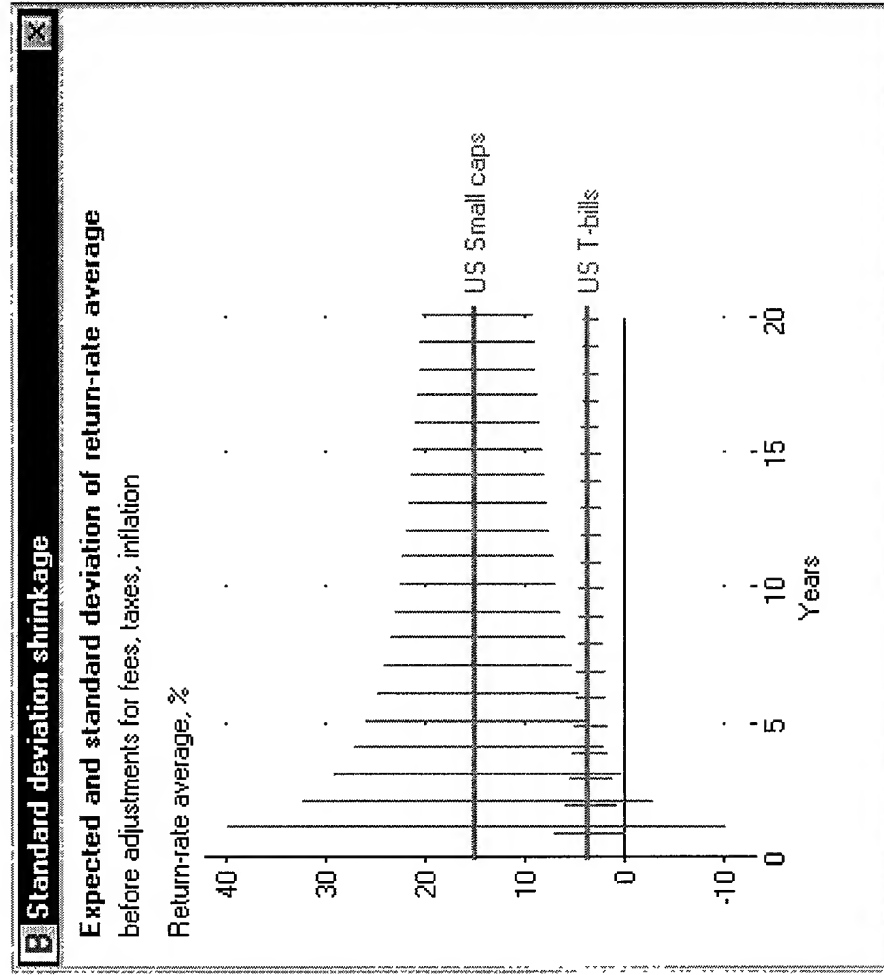


FIG. 14

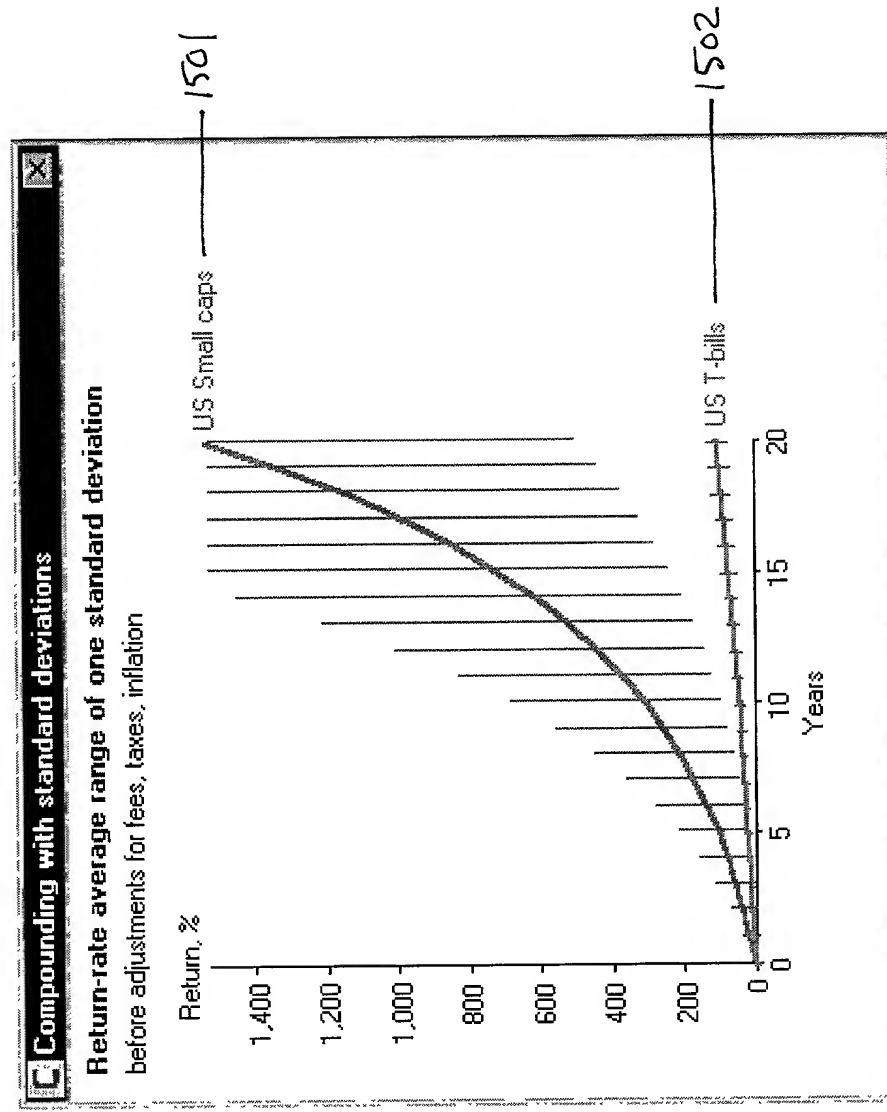


FIG. 15

FIG. 16

FIG. 16

Client Entries

Client Fred & Sonja Smedley

3221 Collinsworth

Fort Worth, TX 76107

Age 54

Name Fred

Year 2000

Cash flow

Explain

Clear

Cancel

OK

Goals, future & uses

Contributions

Fees, taxes, inflation

Portfolios

Investment funds now

	Amount, \$
Qualified, no endtax	45,000
Qualified, tax on WVD	
NonQualified	100,000

Annual contributions until retire

	First-year amount, \$	Annual rise, %
Qualified, no endtax	1	12,000
Qualified, tax on WVD	2	
NonQualified	1	16,000
	2	

Other contributions

Source	Start year	Start-year amount, \$	Number of years	Annual rise, %
Sell house	13	200,000	1	

Social Security and pensions

	Start year	Start-year amount, \$	Annual rise, %	Percent taxable
Social Security	1	13	15,000	3
	2			
Pension/annuity	1			
	2			

FIG. 17

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
 Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 18 of 45

1804

Cash flow schedule - before investment returns										
	Inflation		Today's-value dollars (contributions deflated)							
	1	2	3	4	5	6	7	8	9	10
Year from now	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Year calendar	56	57	58	59	60	61	62	63	64	65
Age 1	53	54	55	56	57	58	59	60	61	62
Age 2										
GOALS										
Retirement budget										
College Helga			31,827	32,782	33,765	34,778				
College Ira										
Goals TOTAL	0	0	31,827	32,782	33,765	34,778	0			
CONTRIBUTIONS										
Qualified, no endtax										
Now	45,000									
Annual, 1	11,828	11,831	12,037	12,247	12,461	12,678	12,899	13,122		
NonQualified										
Now	100,000									
Annual, 1	15,504	15,925	16,357	16,800	17,256	17,724	18,205	18,689		
Sell house										
Social security 1, net										
Contribs TOTAL	172,132	27,755	28,394	29,047	29,717	30,402	31,104	31,822		
REQUIRED CUM NET	0	0	0	0	0	0	0	0		

1801

1802

1803

FIG. 18

1904 1906 1902 1907 1908

Client

Fred & Sonja Smedley

3221 Collinsworth

Fort Worth, TX 76107

Age

54

Year

2000

Age

52

Year

2000

Explain

Clear

Cancel

OK

Goals, future \$ uses

Contributions

Fees, taxes, inflation

Portfolios

Tax rates, %

Ord	35	Cap	20
PreRetired	28	Retired	15

Inflation rates, %

General rate	3.2
College premium	3.0

Select asset classes

Asset class	Qual	Non Qual	Fees, annual, % asset value	How NonQualified assets' returns will be taxed, as % of the assets' total returns	As earned, each year	Upon sale (turnover)	At end, on withdrawal	Not taxable	Turnover, annual %
US Large caps	0.60	1.00			20	80		0	10
US Small caps	0.60	1.00			20	80		0	20
Int'l Equities	0.60	1.00			20	80		0	20
US Fixed income	0.60	1.00			100			0	
US T-bills	0.60	1.00			100			0	

FIG. 19

2004 2005 2003

Client Entries

Client: Fred & Sonja Smedley
 3221 Collinsworth
 Fort Worth TX 76107

Age: 54 Fred
 52 Sonja

Year: 2000

Explain
 Clear Cancel OK

Cash flow

2010

2011

2012

2013

2008

2009

2007

2006

Frontier MultiPort System

Q and NQ portfolios

In expected return rates, Q should be

☒ Higher than NQ by 1.0 %
☐ Lower

Reallocations

Reallocate ☒ Once, on retirement
☐ Every years

Reduce expected return rate 1.0 %

☐ Change by year
 In expected return rate

2 3 4

Frontier allocation constraints

Expected End Value

Confidence level, %: 80

Plan B

Plan A Q NQ Q NQ Q NQ Q NQ

Plan A	Plan B	Asset class	Expected	Std. devn.
30	70	1 US Large caps	13.0	20.0
30	10	2 US Small caps	13.8	25.0
30	5	3 Intl Equities	10.5	21.5
5	10	4 US Fixed income	5.2	7.8
5	5	5 US T-bills	3.6	2.7
		6		
		7		
		8		
100	100		11.6	16.8
100	100		11.7	16.7
Future Ports A & B			5.2	7.8
			5.2	7.8

Plan A Q NQ Q NQ Q NQ Q NQ

11.6 16.8
 11.7 16.7
 5.2 7.8
 5.2 7.8

FIG. 20

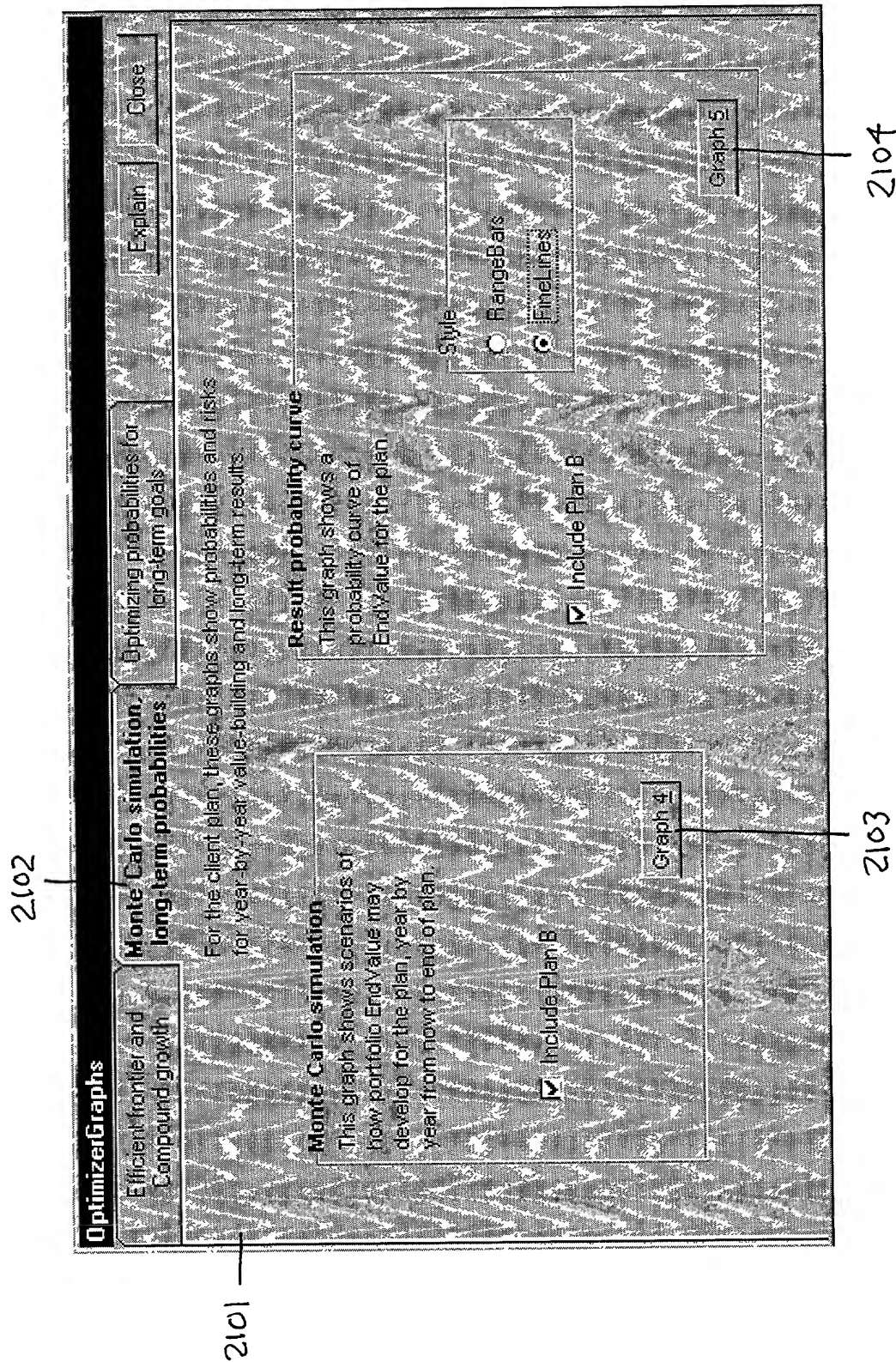


FIG. 21

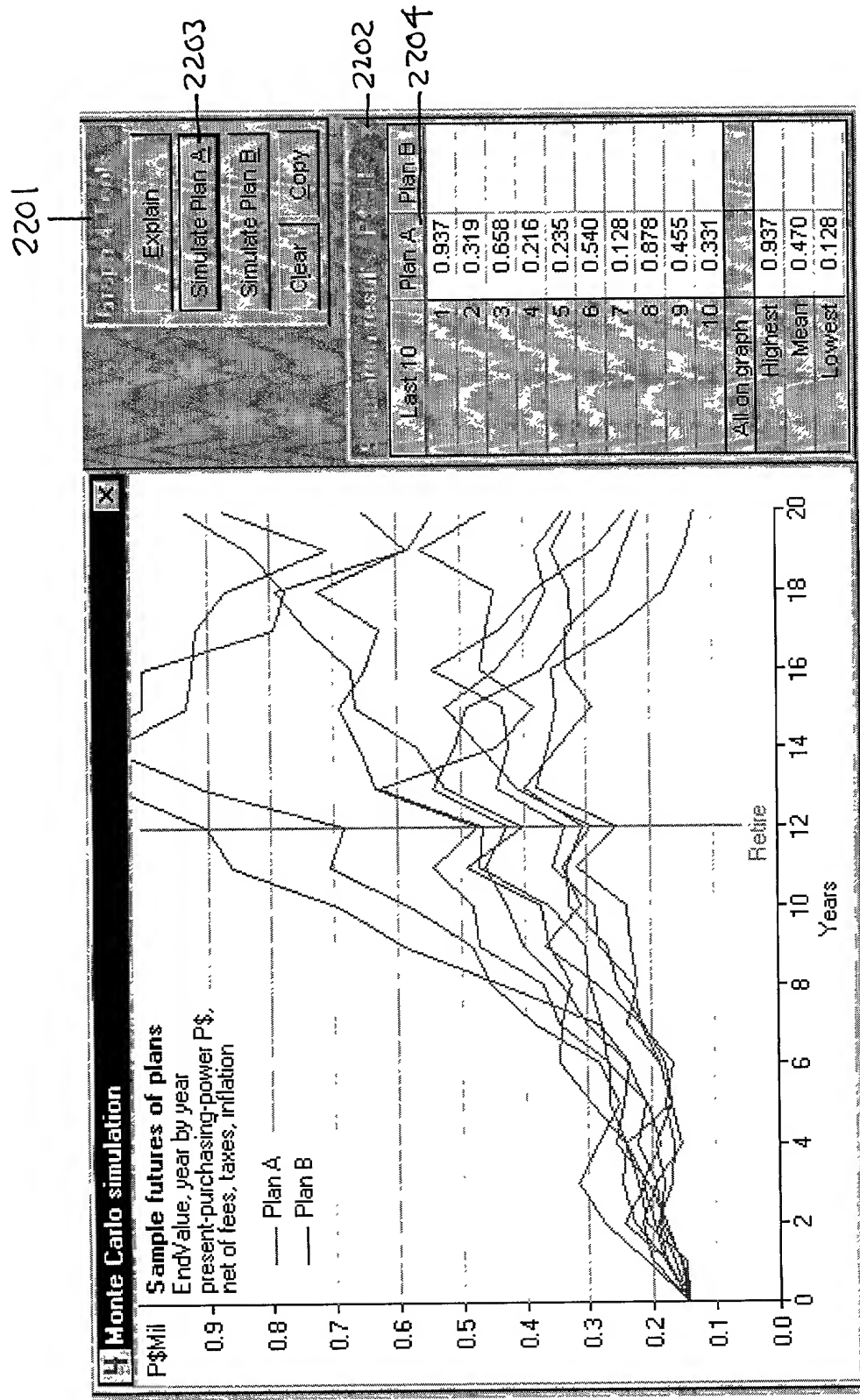


FIG. 22

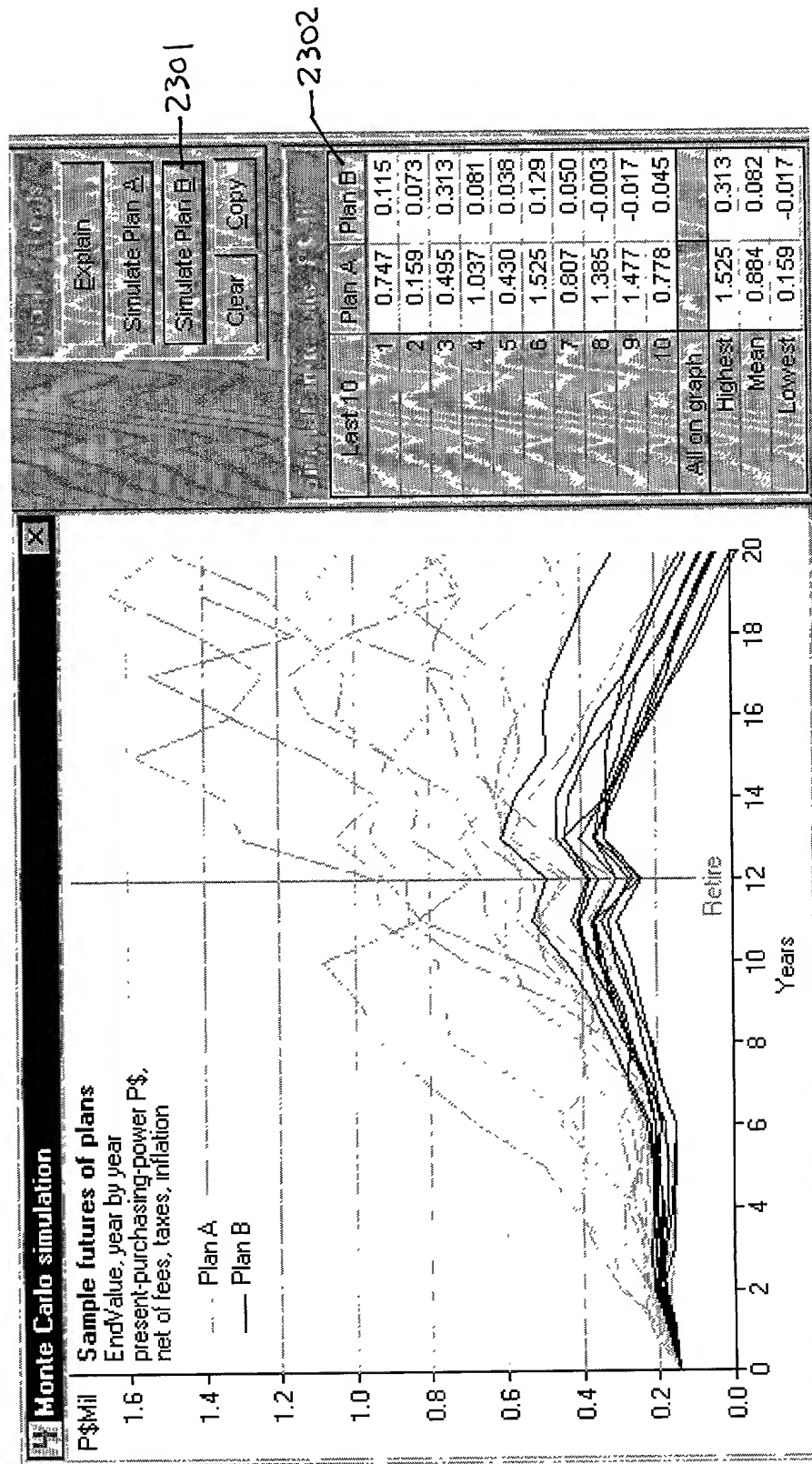


FIG. 23

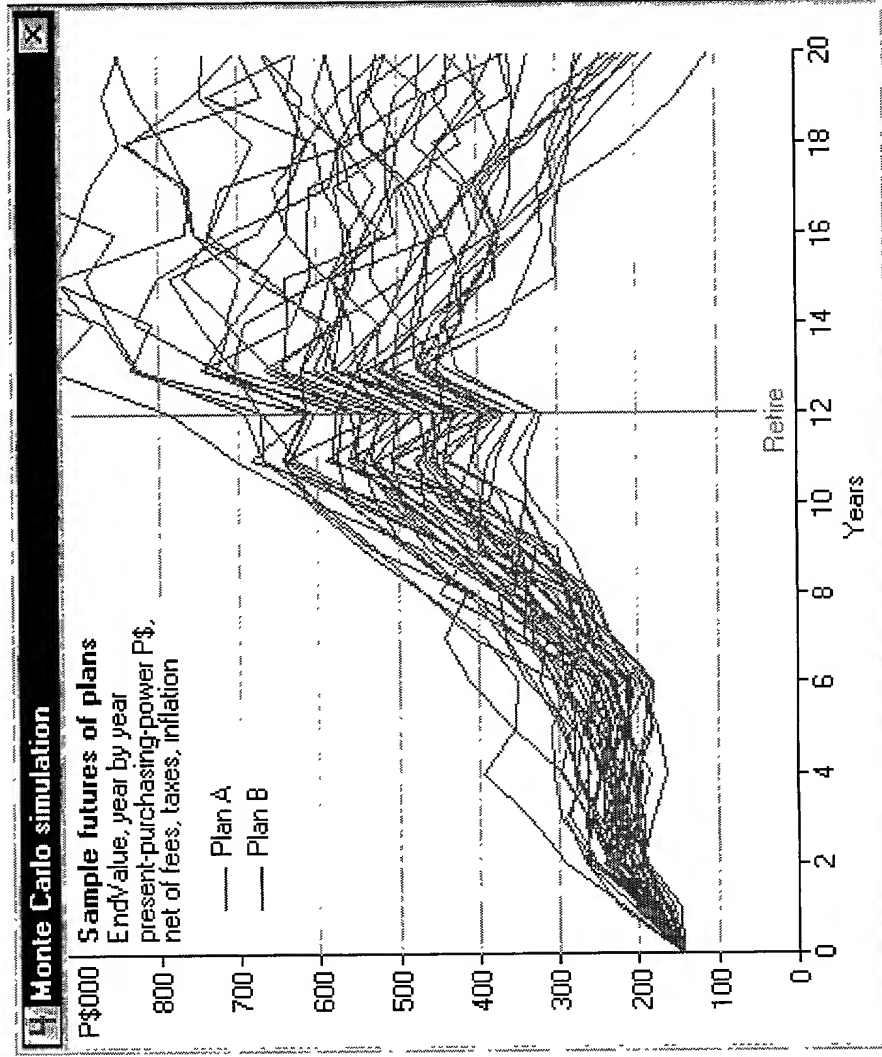


FIG. 24

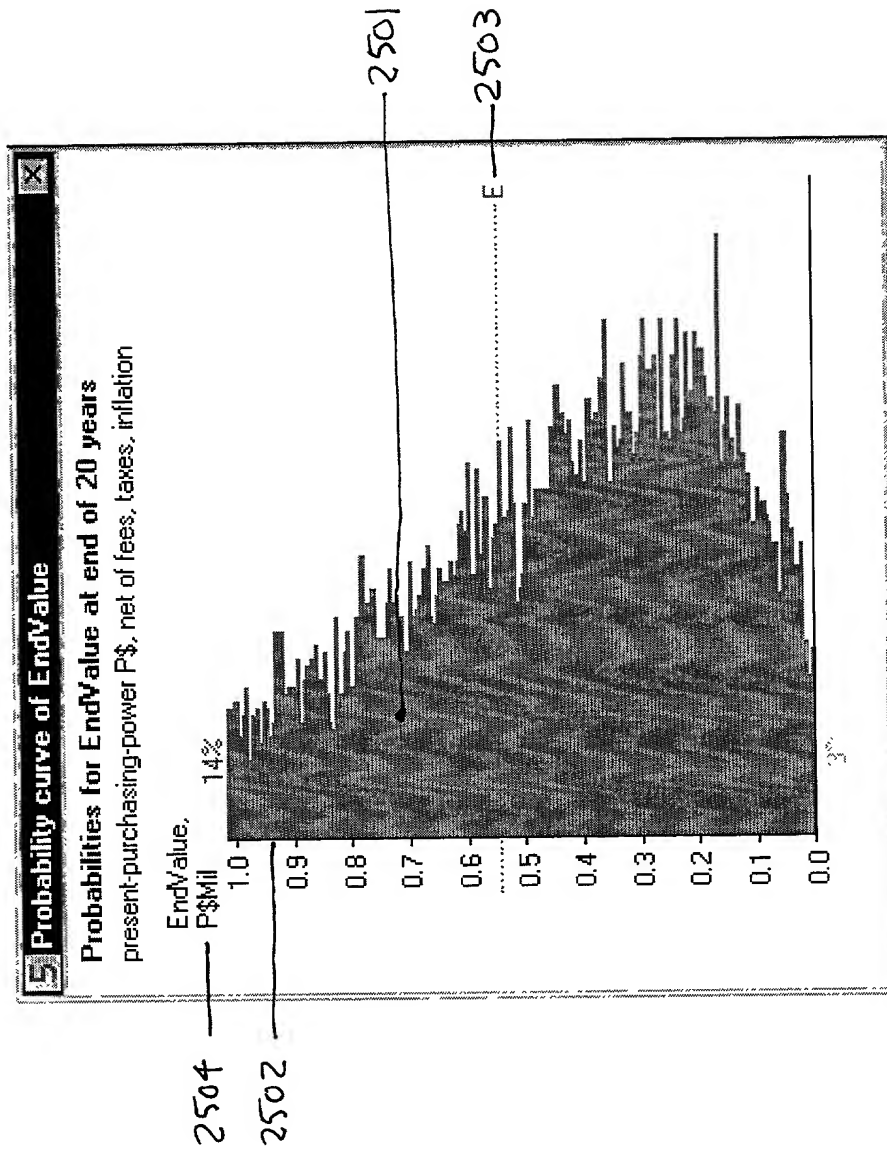


FIG. 25

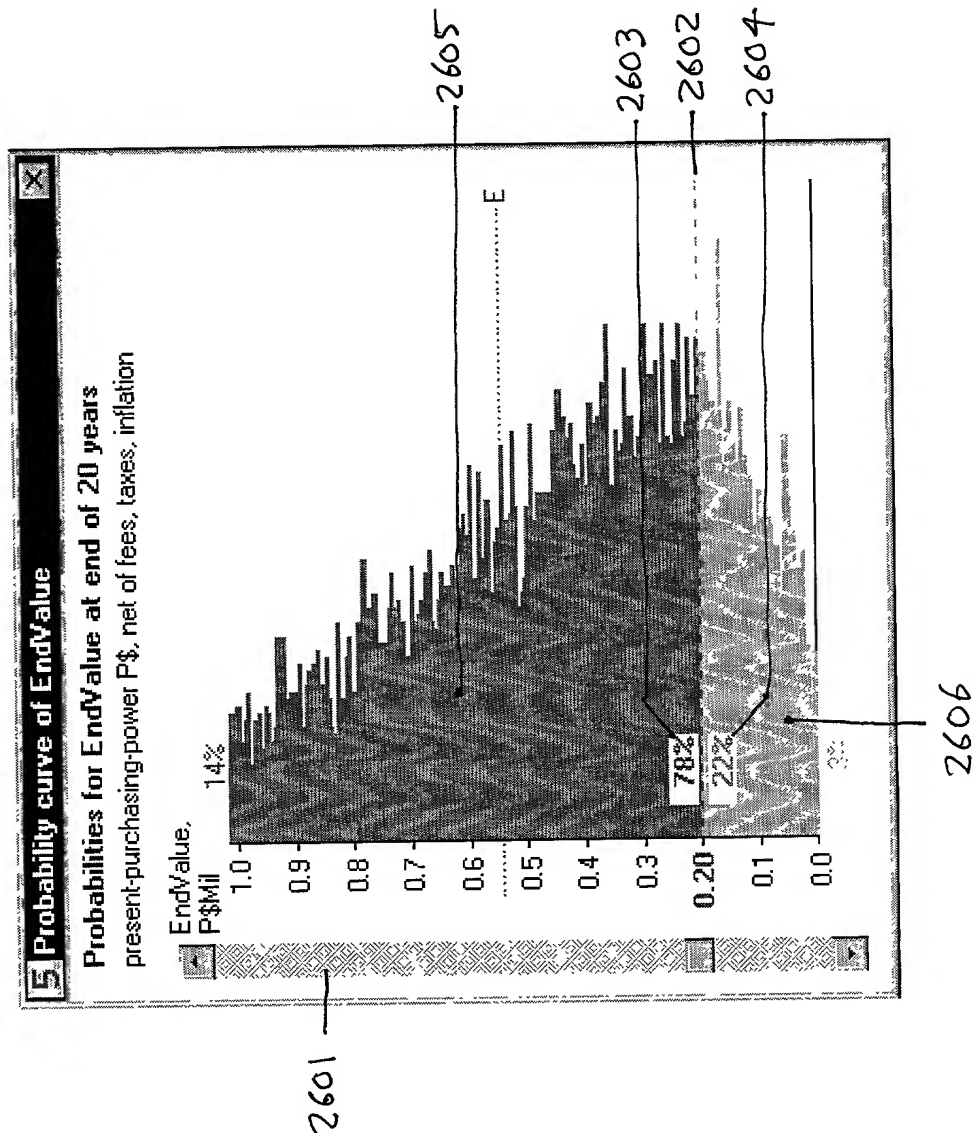


FIG. 26

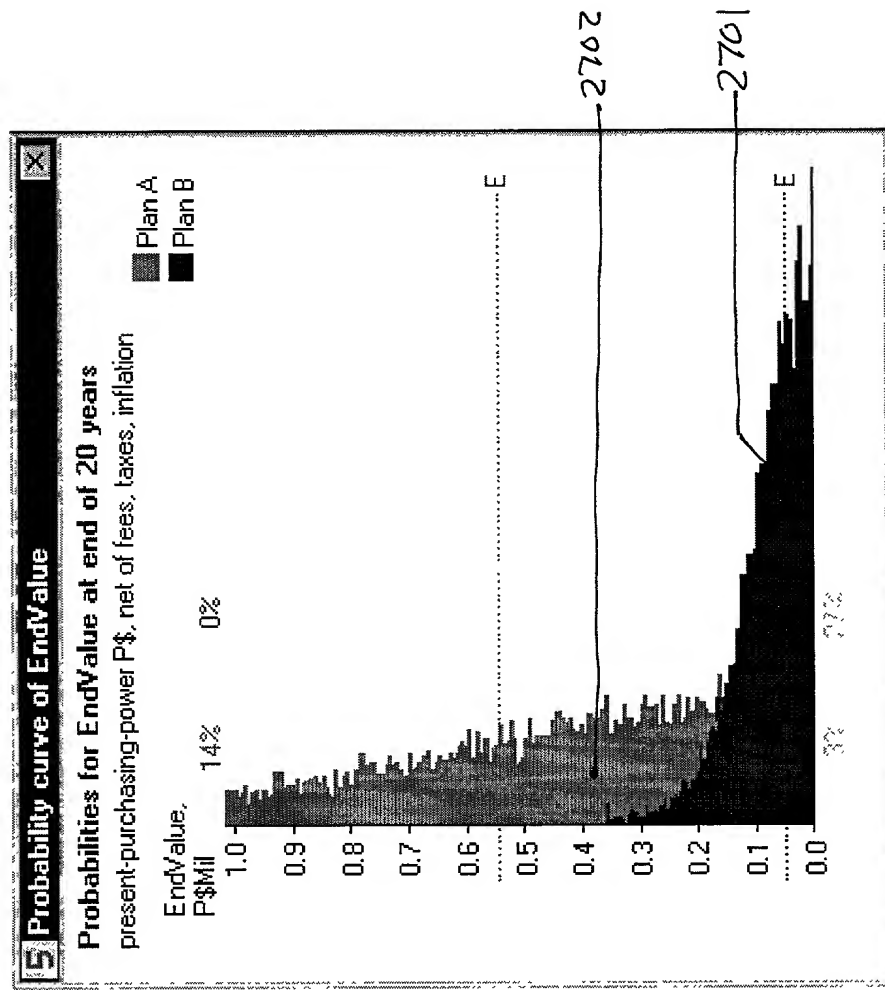


FIG. 27

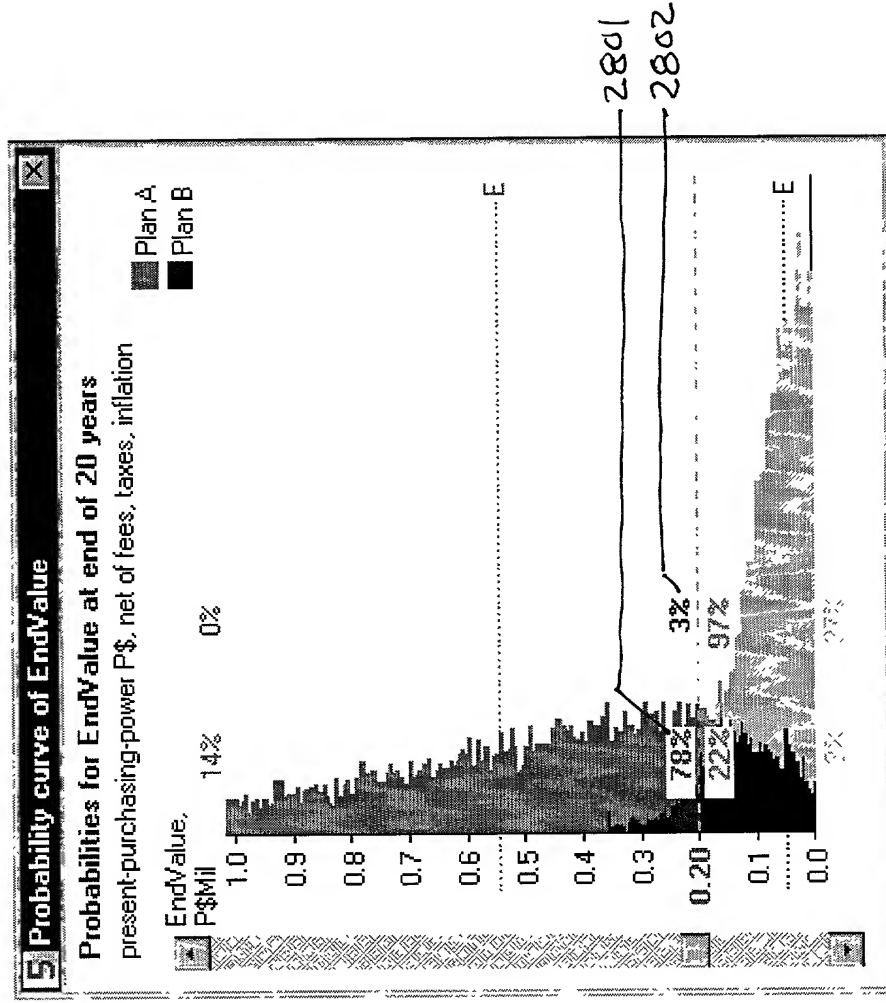


FIG. 28

2902

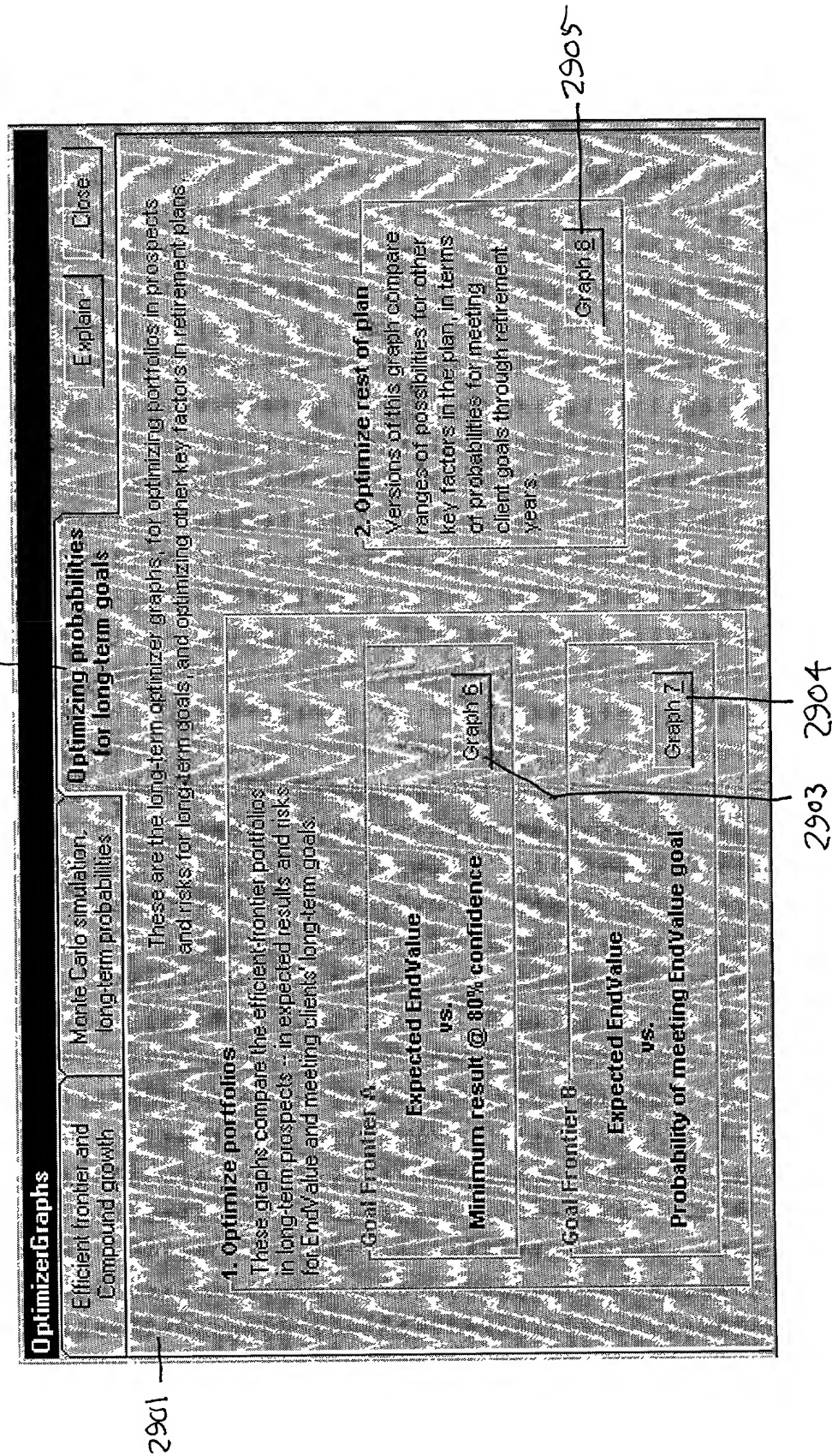


FIG. 29

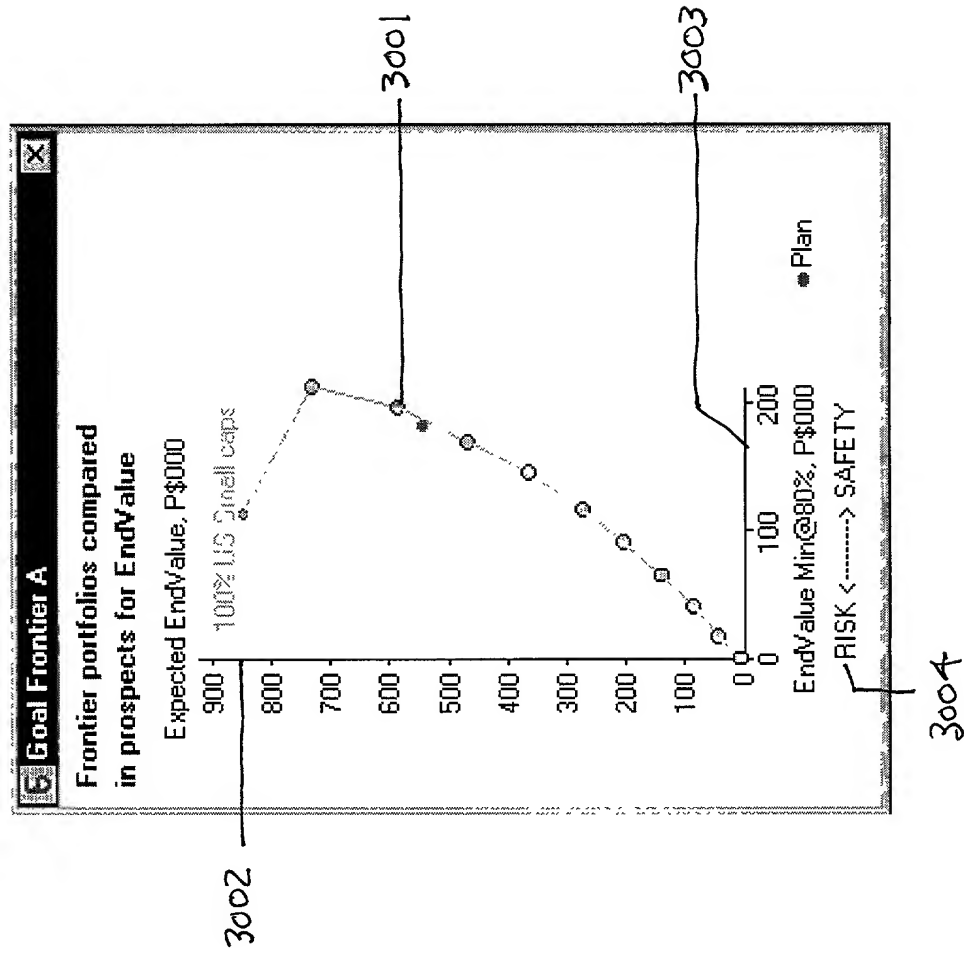


FIG. 30

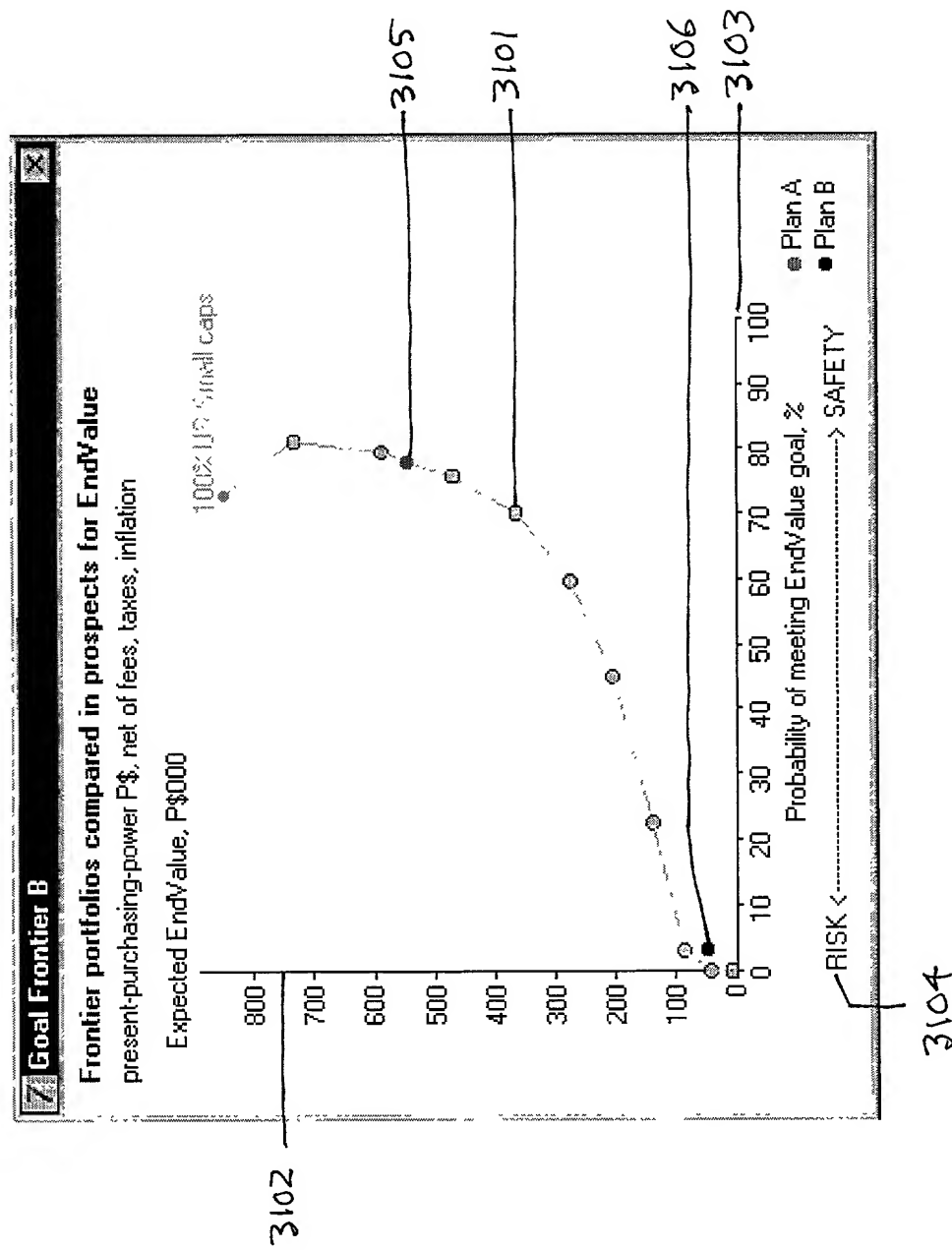


FIG. 31

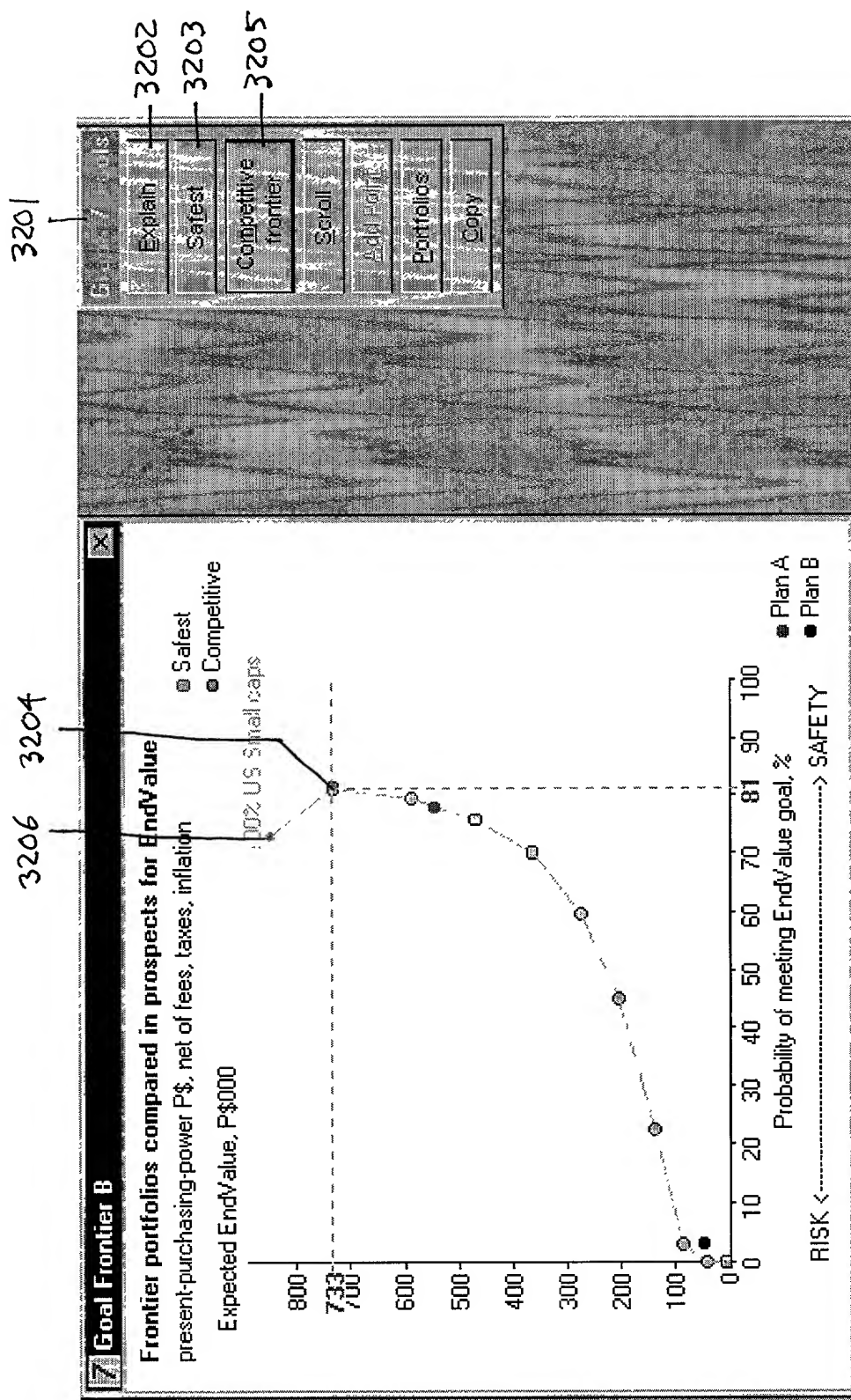


FIG. 32

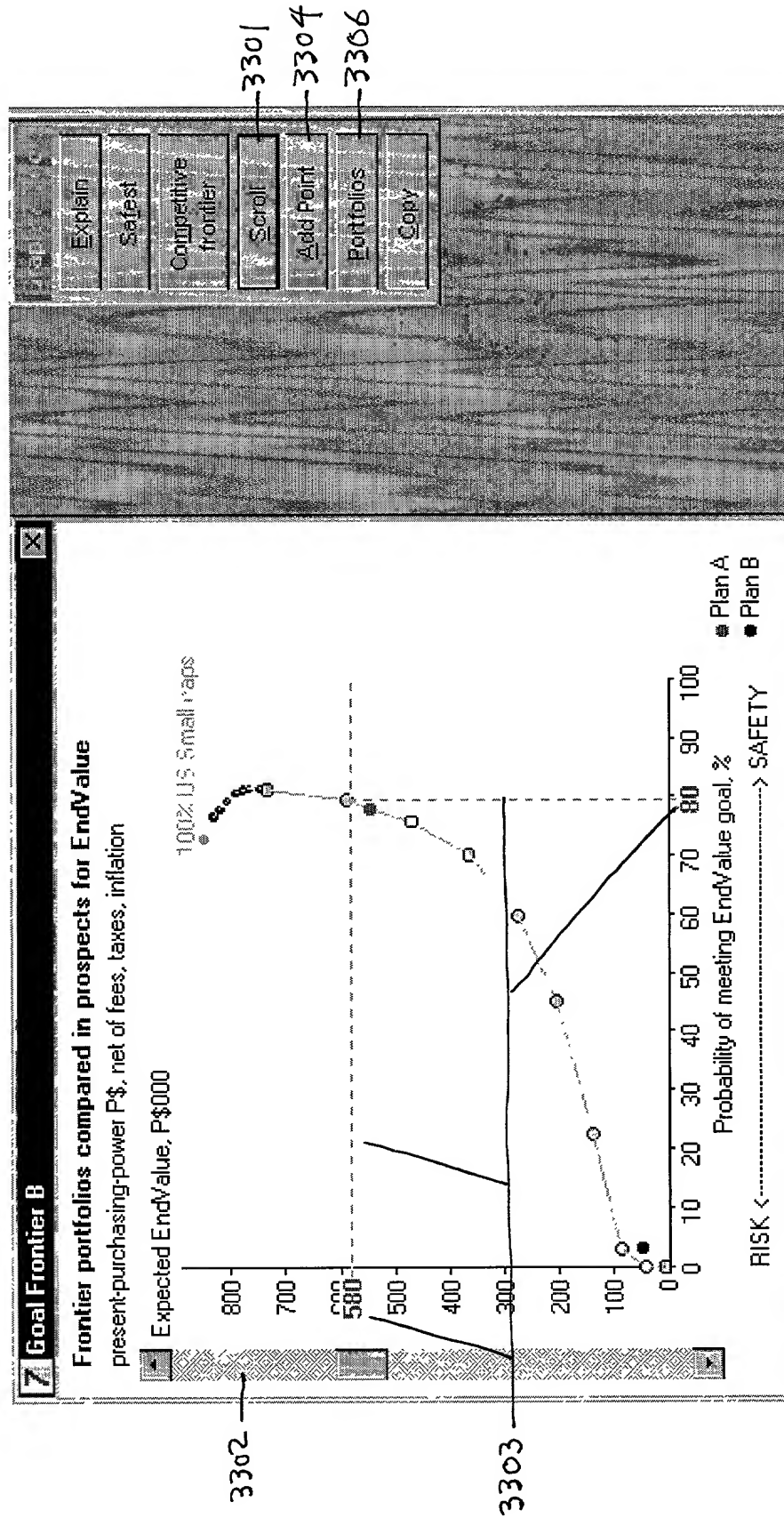


FIG. 33

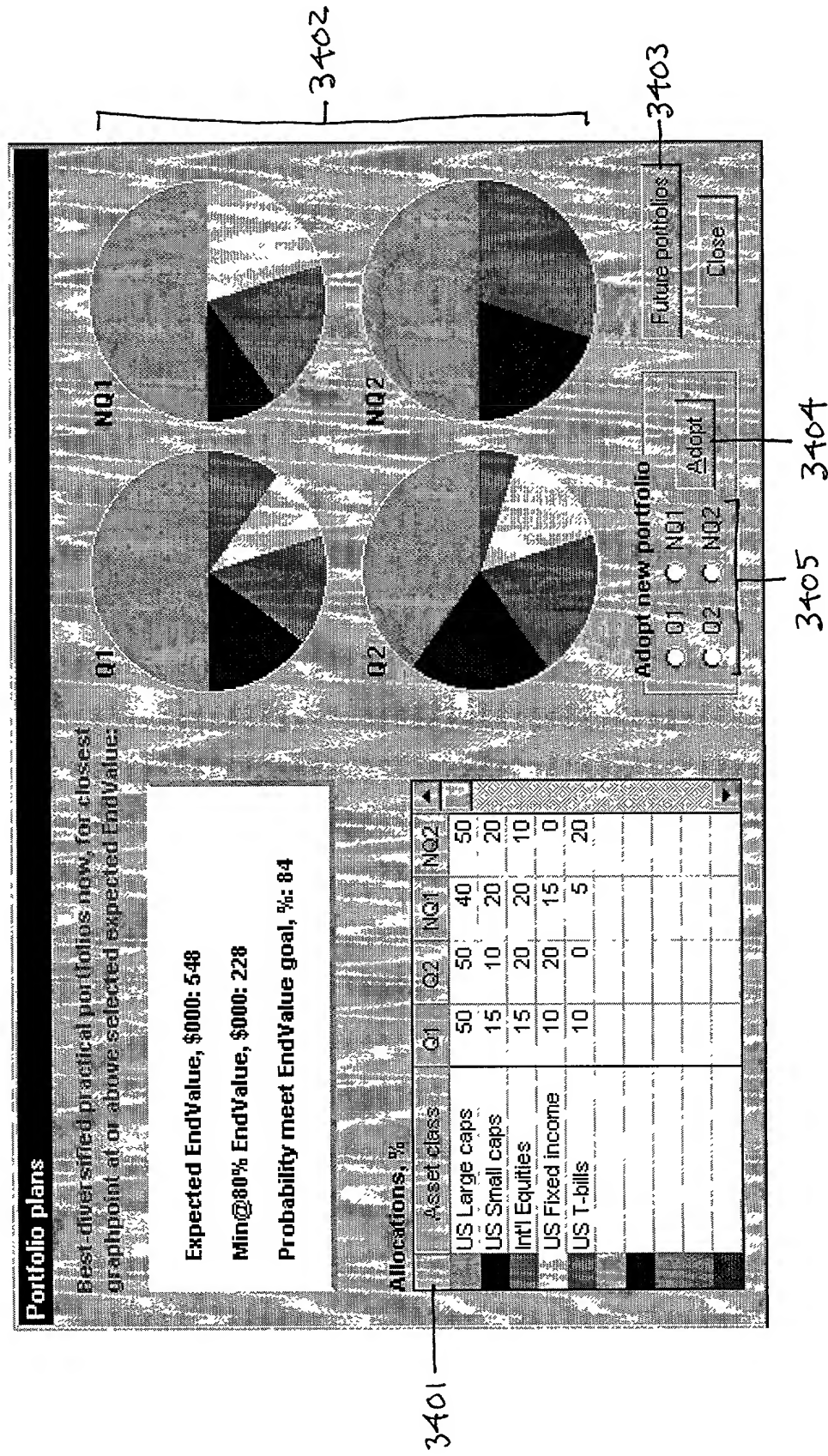


FIG. 34

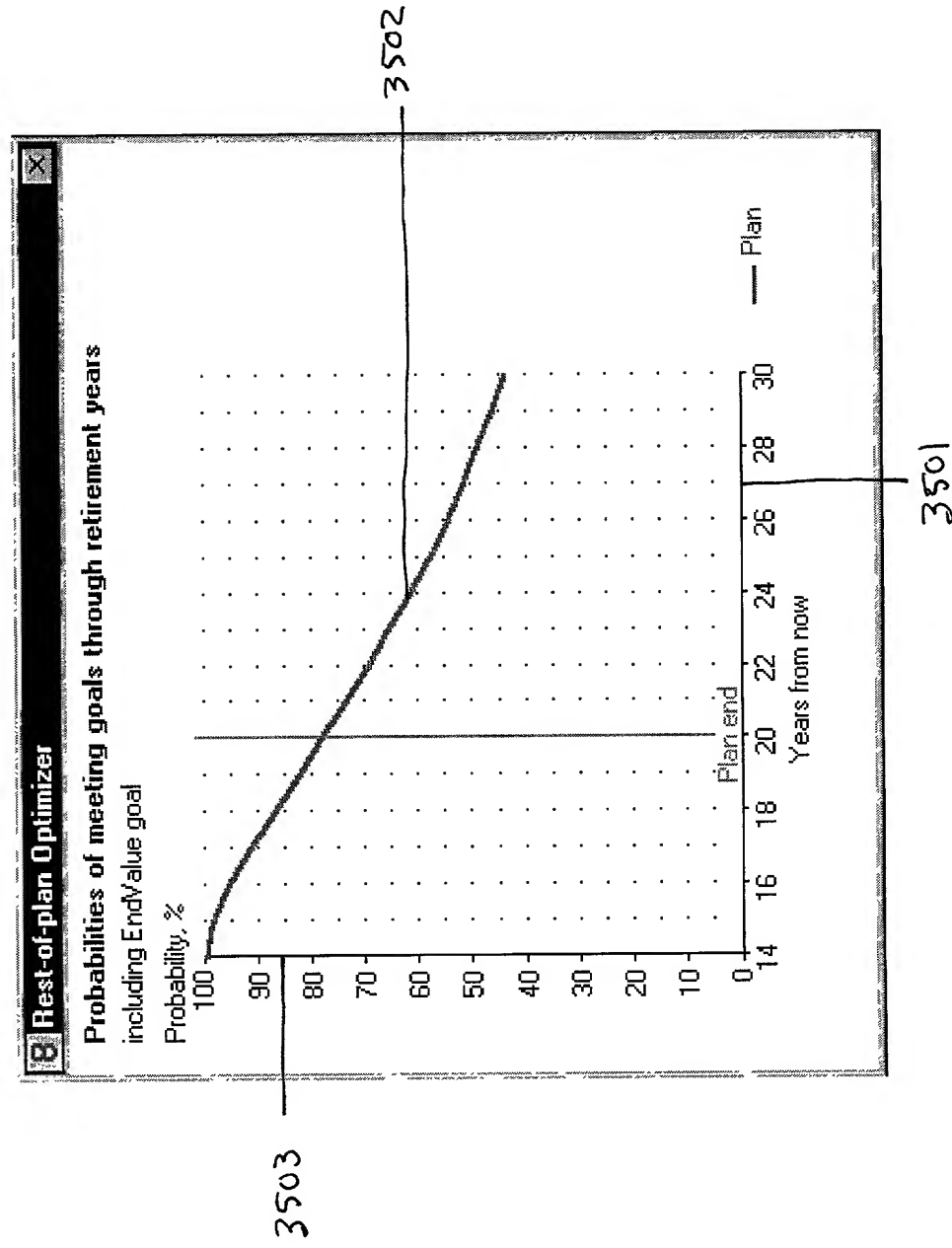
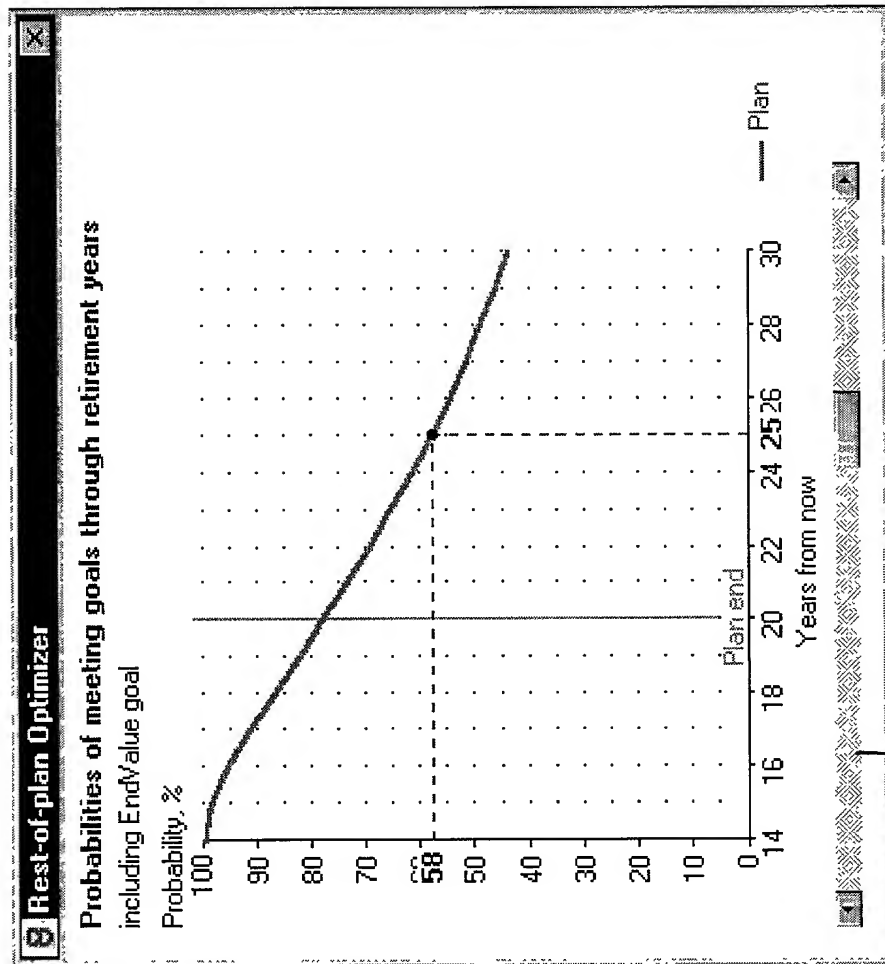


FIG. 35



3601

FIG. 36

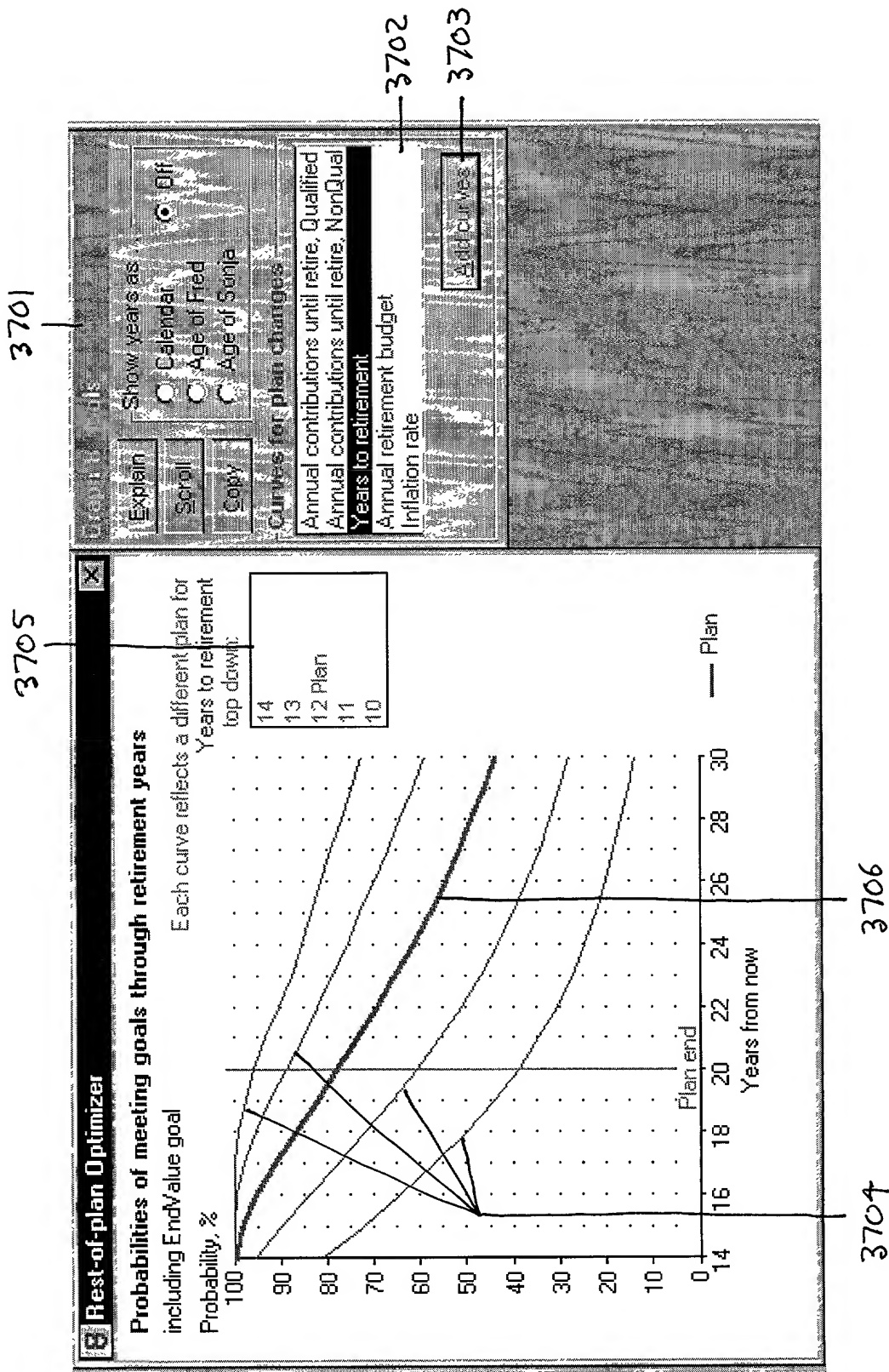
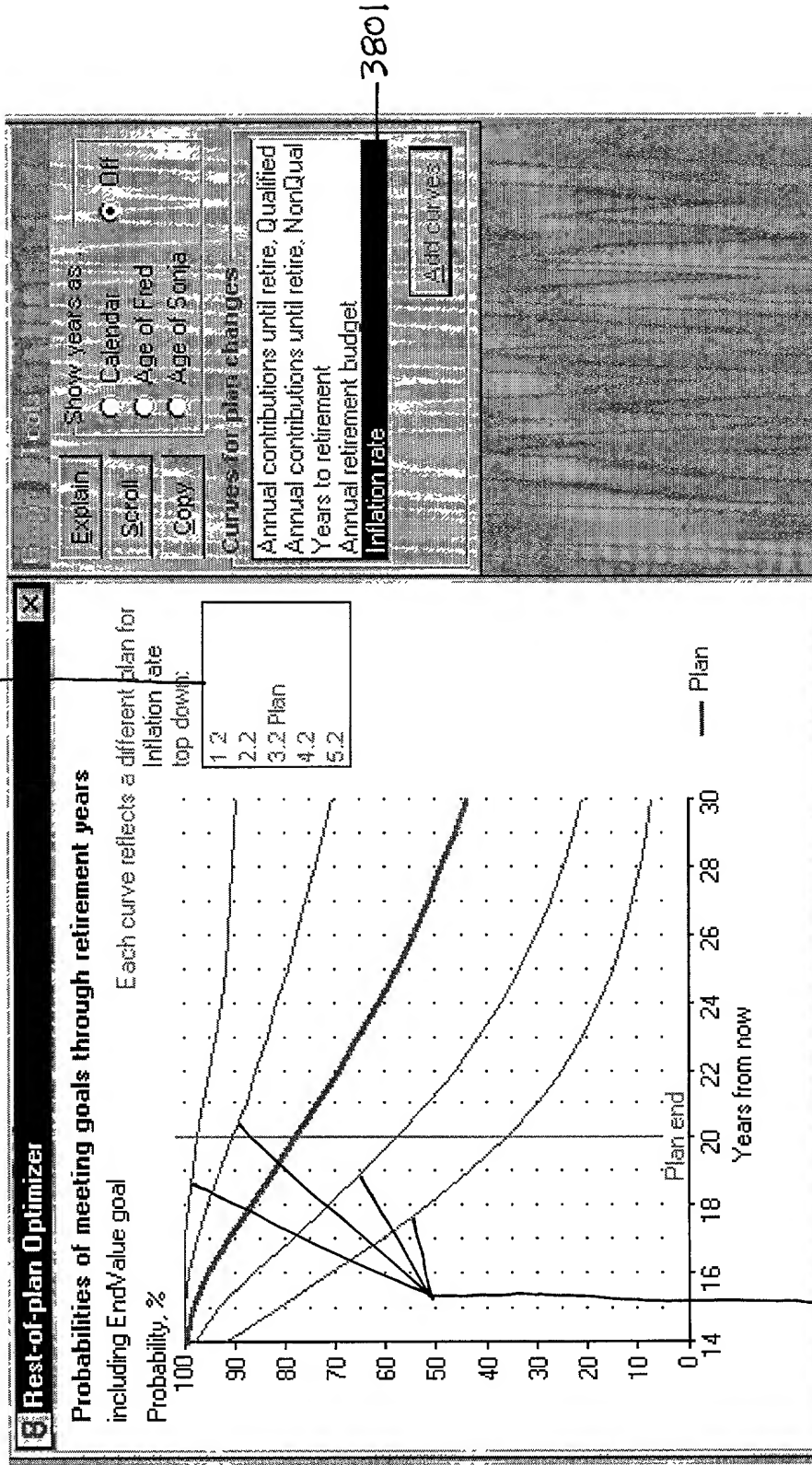


FIG. 37

3803



3802

FIG. 38

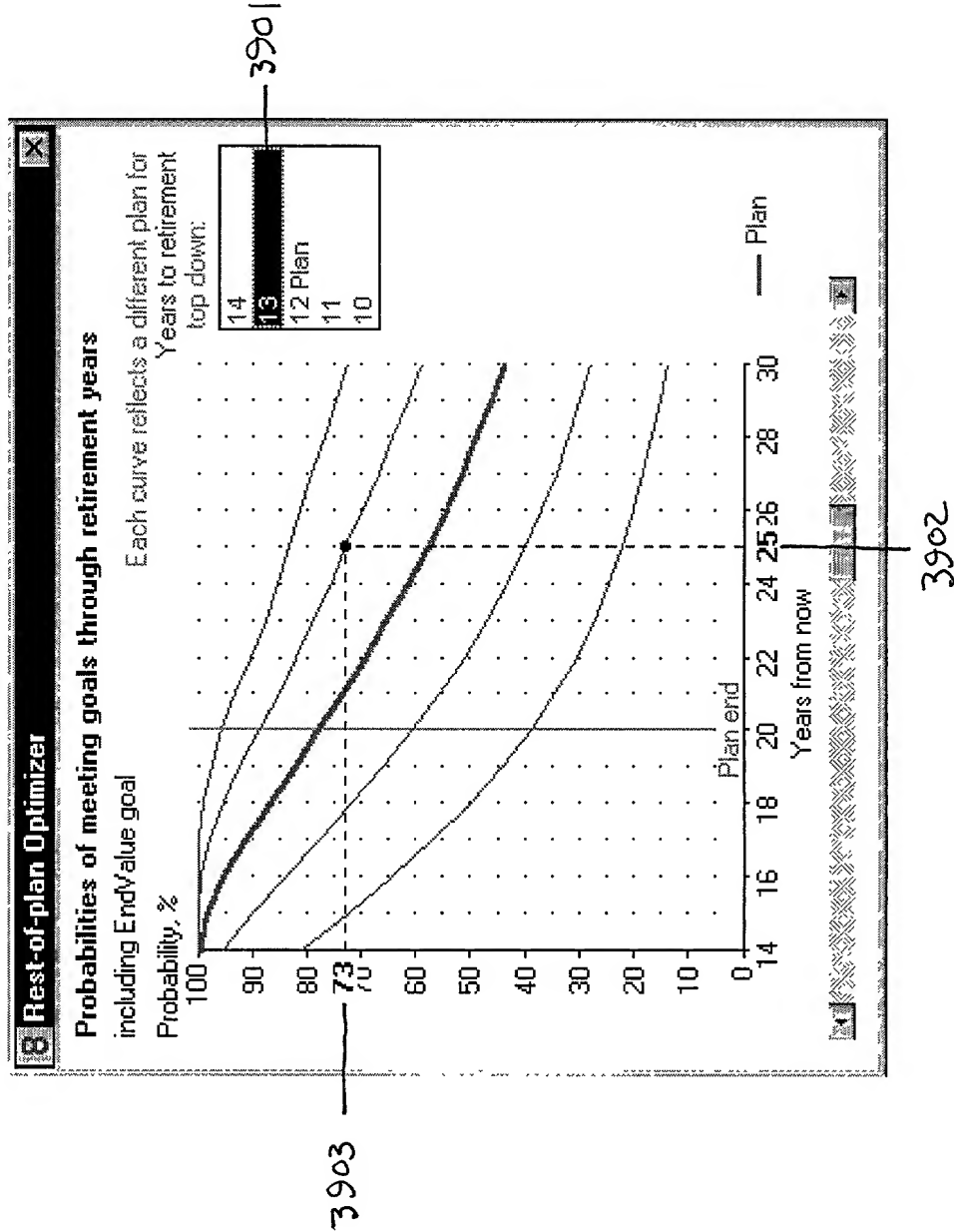
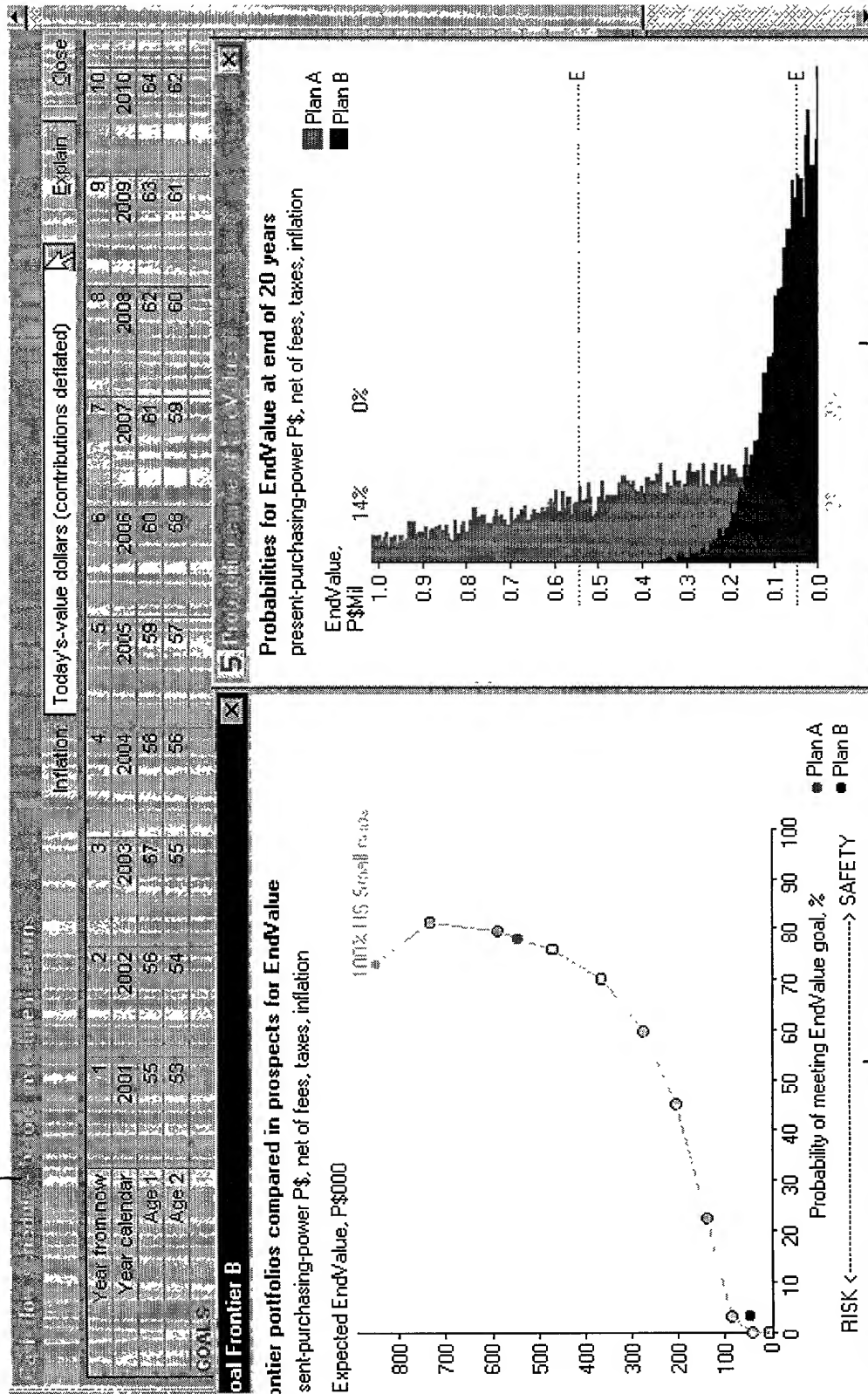


FIG. 39

4001



4002

4003

FIG. 40

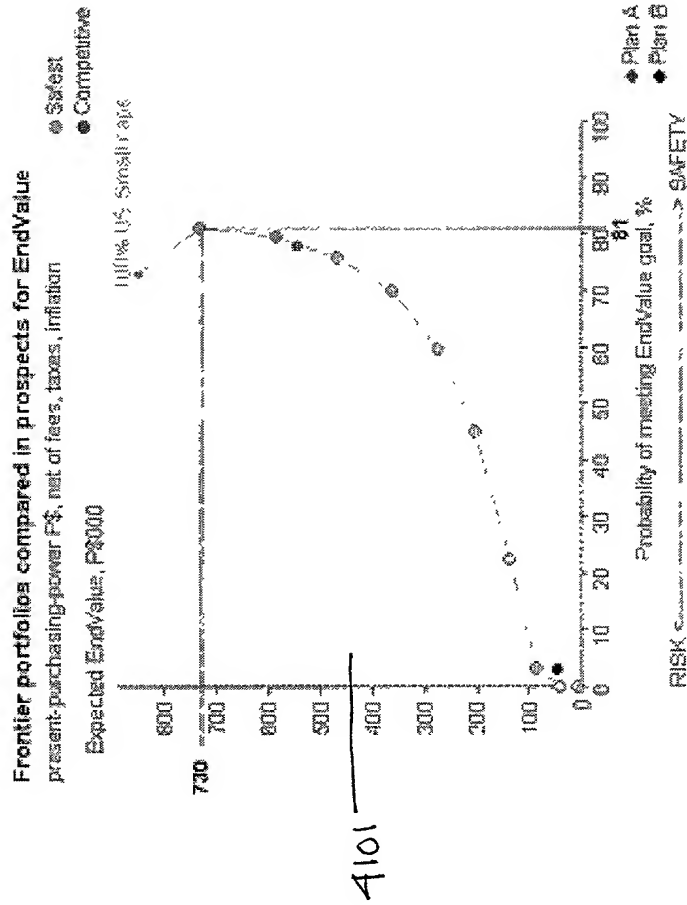


FIG. 41

4102 — This is a page in a word processing software product in which a graph from the novel long-term optimizing software has been copied and pasted and then this text added.

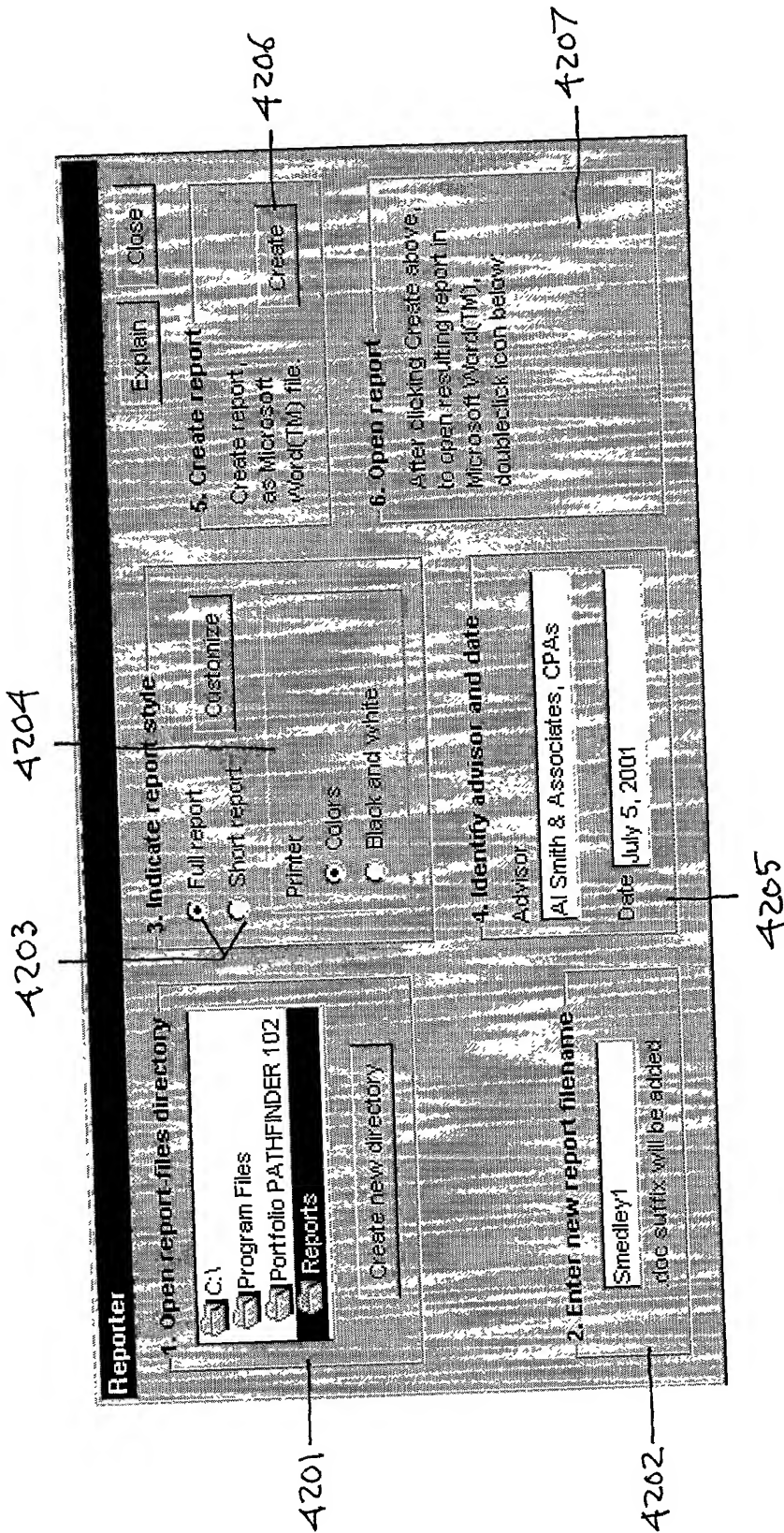


FIG. 42

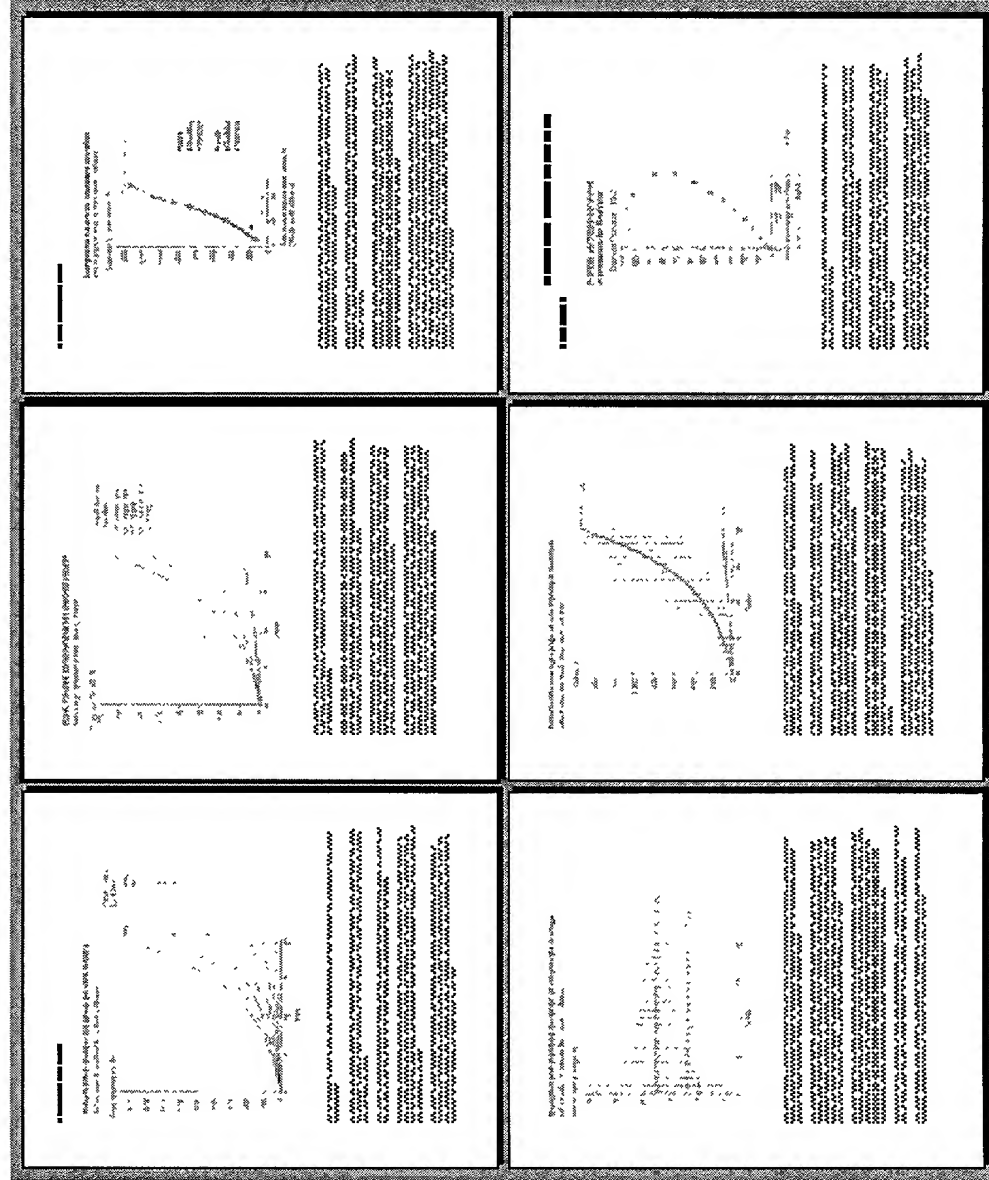


FIG. 43

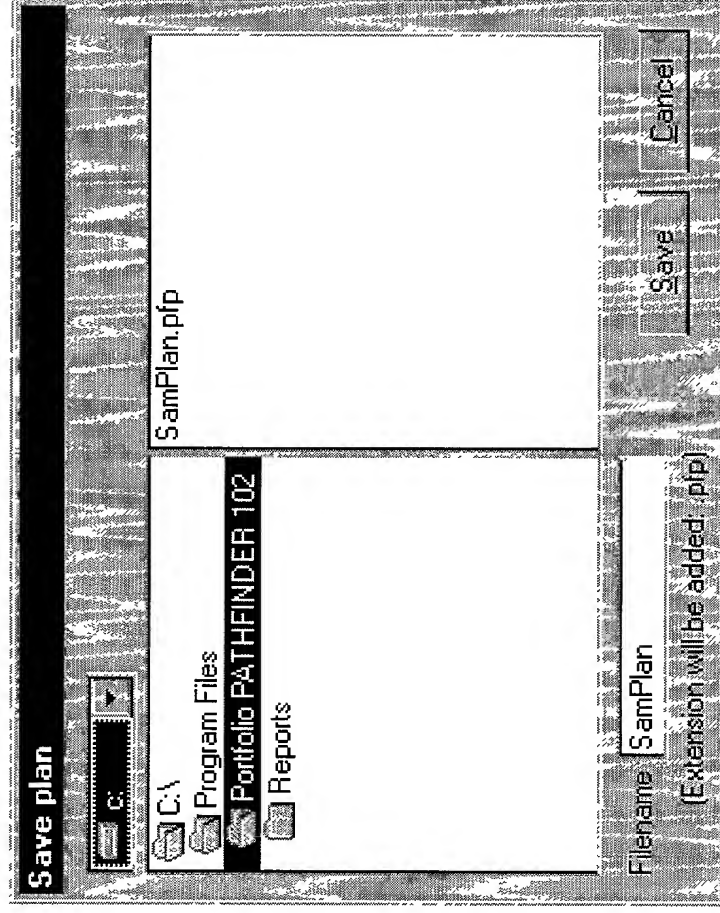


FIG. 44

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Client entries below				Al Smith & Associates, CPAs							
3	Asset classes below	Client entries			July 5, 2001							
4	Cash flow schedule at right											
5												
6												
7												
8	CLIENT ENTRIES											
9	CLIENT	Fred & Sonja Smedley										
10		3221 Collinsworth										
11		Fort Worth, TX 76107										
12		Ages/year	Age 1	54 Fred								
13			Age 2	52 Sonja								
14			Year	2000								
15												
16	GOALS											
17		Retire	Years in plan	20								
18			Year to retirement	12								
19			Ann'l retire budget	60000								
20			Min final balance	200000								
21												
22												
23		College	Student	Start Year	\$/year	Years						
24			Helga	3	30000	4						
25				0	0	0						
26				0	0	0						
27				0	0	0						
28				0	0	0						
29				0	0	0						
30				0	0	0						
31				0	0	0						
32				0	0	0						
33				0	0	0						
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54				0	0	0						
55				0	0	0						
56				0	0	0						
57				0	0	0						
58				0	0	0						
59				0	0	0						
60				0	0	0						

FIG. 45